SCREENING SITE INSPECTION REPORT
FOR
ESTWING MANUFACTURING COMPANY
ROCKFORD, ILLINOIS
U.S. EPA ID: ILD005212394
SS ID: NONE
TDD: F05-8808-005
PAN: FIL0656SB

OCTOBER 31, 1990

ecology and environment, inc.
111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415
International Specialists in the Environment

SIGNATURE PAGE
FOR
SCREENING SITE INSPECTION REPORT
FOR
ESTWING MANUFACTURING COMPANY
ROCKFORD, ILLINOIS
U.S. EPA ID: ILD005212394
SS ID: NONE
TDD: F05-8808-005
PAN: FIL0656SB

Prepared by: Karen M. Kander for S.F.B. Date: October 31, 1990
Samuel F. Borries
FIT Team Leader
Ecology and Environment, Inc.

Reviewed by: Regina Bayer for M.M. Date: 10/31/90
Michael E. McAteer
FIT Unit Manager
Ecology and Environment, Inc.

Approved by: Mary Jane Boyer for JDO Date: 10/31/90
Jerome D. Oskvarek
FIT Office Manager
Ecology and Environment, Inc.

TABLE OF CONTENTS

Table of Contents (Cont.)

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

Ecology and Environment, Inc., Field Investigation Team (FIT) was tasked by the United States Environmental Protection Agency (U.S. EPA) to conduct a screening site inspection (SSI) of the Estwing Manufacturing Company (Estwing) site under contract number 68-01-7347.

The site was initially discovered by U.S. EPA through a Notification of Hazardous Waste Activity Form 2050-0028 filed in April 1986.

The site was evaluated in the form of a preliminary assessment (PA) that was submitted to U.S. EPA. The PA was prepared by Timothy J. Murphy of the Illinois Environmental Protection Agency (IEPA) office in Springfield, Illinois, and is dated December 27, 1987.

FIT prepared an SSI work plan for the Estwing site under technical directive document (TDD) F05-8808-005, issued on August 11, 1988. The SSI work plan was approved by U.S. EPA on January 17, 1989. The SSI of the Estwing site was conducted on August 8 and 9, 1989, under amended TDD F05-8808-005, issued on February 24, 1989.

The FIT SSI included an interview with site representatives, a reconnaissance inspection of the site, and the collection of 11 soil samples and 3 residential well samples.

The purposes of an SSI have been stated by U.S. EPA in a directive outlining Pre-Remedial Program strategies. The directive states:

> All sites will receive a screening SI to 1) collect additional data beyond the PA to enable a more refined preliminary HRS [Hazard Ranking System] score, 2) establish priorities among sites most likely to qualify for the NPL [National Priorities List], and 3) identify the

> most critical data requirements for the listing SI step. A screening SI will not have rigorous data quality objectives (DQOs). Based on the refined preliminary HRS score and other technical judgement factors, the site will then either be designated as NFRAP [no further remedial action planned], or carried forward as an NPL listing candidate. A listing SI will not automatically be done on these sites, however. First, they will go through a management evaluation to determine whether they can be addressed by another authority such as RCRA [Resource Conservation and Recovery Act].... Sites that are designated NFRAP or deferred to other statutes are not candidates for a listing SI.
>
> The listing SI will address all the data requirements of the revised HRS using field screening and NPL level DQOs. It may also provide needed data in a format to support remedial investigation work plan development. Only sites that appear to score high enough for listing and that have not been deferred to another authority will receive a listing SI. (U.S. EPA 1988)

U.S. EPA Region V has also instructed FIT to identify sites during the SSI that may require removal action to remediate an immediate human health or environmental threat.

2. SITE BACKGROUND

2.1 INTRODUCTION

This section presents information obtained from SSI work plan preparation, the site representative interview, and the reconnaissance inspection of the site.

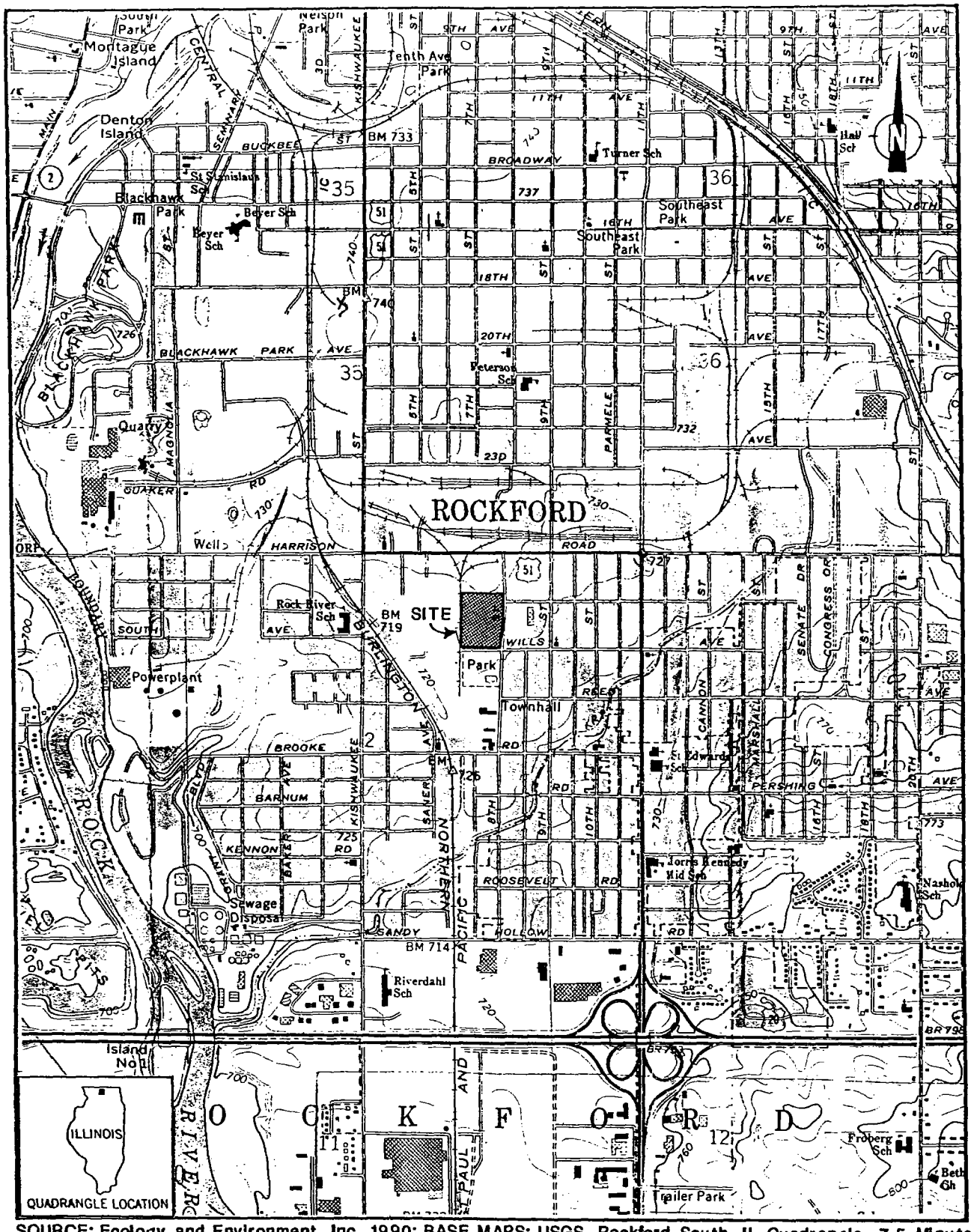
2.2 SITE DESCRIPTION

Estwing Manufacturing Company is an active tool forging manufacturer. Estwing Manufacturing occupies a site of approximately 7.5 acres at 2647 Eighth Street in the city of Rockford, Winnebago County, Illinois (NE1/4NE1/4 sec. 2, T.43N., R.1E.) (see Figure 2-1 for site location). The rectangularly-shaped Estwing site is in an industrial part of Rockford and is surrounded by residential neighborhoods. A 4-mile radius map of the Estwing site is provided in Appendix A.

2.3 SITE HISTORY

Estwing Manufacturing has owned and operated a facility at this site since 1928. Petroleum Motors owned the site property from the early 1920s until 1928. Petroleum Motors was a manufacturer of automobile motors (Devers 1989). No information is available concerning site ownership or operation prior to ownership by Petroleum Motors.

Estwing Manufacturing manufactures hand tools (e.g., hammers, hatchets, and pry bars). The tools are of one-piece, solid-steel construction. Round links of steel are heated and forged to form hand tools, which are then hand polished. Two types of handles--leather and vinyl or polyvinyl--are used on the tools. Vinyl or polyvinyl handles



SOURCE: Ecology and Environment, Inc. 1990; BASE MAPS: USGS, Rockford South, IL Quadrangle, 7.5 Minute Series, 1976; Rockford North, IL Quadrangle, 7.5 Minute Series, 1976.

FIGURE 2-1 SITE LOCATION

are put in a mold to conform the handle around the steel shank of the tool. Vegetable tan leather (sole leather) handles are produced with two plastic rings on each end, shaped, and completed with a lacquer finish (Devers 1989).

In December 1986, Tom Henninger of the IEPA Department of Land Pollution Control (DLPC) received a complaint of alleged dumping at the Estwing site. The complaint, from an individual who left the employ of Estwing Manufacturing in April 1986, alleged that solvents, thinners, and paints were being dumped into an on-site pit approximately 15 feet deep by 30 feet long and 20 feet wide (Henninger 1986).

During a site inspection by Henninger on May 11, 1987, a surface soil area west of the main facility building was observed to contain brown material. According to Paul Devers, Estwing Manufacturing Plant Manager, this material was biodegradable leather dust from the grinding of leather hammer and hand tool handles. This dust was placed outside to allow water to evaporate from it. Devers was informed by DLPC that this was an open dumping violation and that the material would have to be manifested, permitted, and disposed of in an appropriate landfill. During Henninger's site inspection, it was determined that Estwing Manufacturing was a generator and a storage facility for hazardous waste (i.e., paint waste, thinner) (Henninger 1986).

A review by IEPA of past practices at the Estwing site revealed that prior to 1983, only a small, unknown quantity of paint waste was generated at the site. This paint waste was added to quench oil and burned to provide heat for forge shops at the site. This practice was discontinued in 1983 (Huff and Huff 1987). A painting operation was added to the Estwing site's operations in 1983, which resulted in the generation of paint, lacquer thinner, and lacquer wastes (IEPA 1987). These wastes were stored in 55-gallon drums on-site for a period long enough (greater than 90 days) to qualify the Estwing site as a RCRA storage facility. Because Estwing Manufacturing did not want to operate as a RCRA storage facility, the company submitted a closure plan for the storage facility, prepared by Huff and Huff, Inc., environmental consultants of LaGrange, Illinois, so that the company would be regulated as a

small quantity generator. The closure plan was approved by IEPA in September 1987 (IEPA 1988).

In the past, Estwing Manufacturing had two underground storage tanks at the site: an 8,000-gallon tank and a 6,000-gallon tank. The tanks were used to store #2 fuel oil for heating purposes. These tanks were removed in July 1989. Samples were collected from soil below the tanks and analyzed. Analysis of the samples showed no contamination, indicating that no fuel leaks had occurred. It was also noted that the tanks' integrity was very sound (Woodington 1990).

At present, liquid waste material generated at the Estwing site includes waste oil (from air compressors and electrical discharge machines), waste salt (potassium chloride salt from quench fluid), and a mix of paints, lacquers, and thinner's (Devers 1989). Solid waste material generated includes scrubber sludge (leather and polyvinyl dust), mill scale (metal flakes from the forging process), and buffing compound (fine grit used to polish tools) (Devers 1989; Huff 1989; Mayer 1989).

Solid waste is kept in large roll-off boxes. When the boxes are filled, the solid waste is disposed of every two to three days at Gredanas Landfill in Darien, Wisconsin. Liquid wastes (waste oil, paints, lacquers, thinner [solvents], and waste salt) are stored in 55-gallon drums on a curbed concrete storage pad and removed from the site every 270 days to Liquid Waste Disposal (LWD) in Calvert City, Kentucky (Devers 1989; Huff 1989; Mayer 1989).

Environmental work conducted by Huff and Huff, Inc., at the Estwing site includes general training, as well as inspection, respirator, and contingency programs for hazardous waste management (Huff 1989). A water pollution management program is followed for handling wastewater discharged through the local sanitary district. An air pollution management program was implemented for handling and bagging leather dust. All of the preceding environmental consulting work has been handled through Huff and Huff, Inc.

Concrete curbing around the hazardous waste storage area was installed at the site by a local building contractor. The contractor's name is unknown (Devers 1989; Huff 1989; Mayer 1989).

Constituents of solid waste material generated at the Estwing site are approximately 90% mill scale, 5% buffing compound, and 5% scrubber sludge. Combined, these solid waste streams generate approximately 45 cubic yards of waste material per week. The paint, lacquer, and thinner accumulate to approximately 11, 55-gallon drums of waste per year. Waste salt and waste oil accumulate to approximately 11, 55-gallon drums of waste per year (Devers 1989; Huff 1989; Mayer 1989).

Currently, there are no known state or federal regulatory or enforcement activities occurring at the Estwing site.

3. SCREENING SITE INSPECTION PROCEDURES AND FIELD OBSERVATIONS

3.1 INTRODUCTION

This section outlines procedures and observations of the SSI of the Estwing site. Individual subsections address the site representative interview, reconnaissance inspection, and sampling procedures. Rationales for specific FIT activities are also provided. The SSI was conducted in accordance with the U.S. EPA-approved work plan, except for soil sampling and soil gas monitoring.

The approved work plan indicated 12 soil samples would be collected. Instead, only 11 soil samples were collected during the SSI. FIT believes 11 soil samples are sufficient for representation of soil waste characteristics at the Estwing site. The approved work plan also indicated soil gas monitoring would be conducted. However, because of widespread use of asphalt drives around the buildings at the site that cover most of the soil, soil gas monitoring was not conducted during the SSI.

The U.S. EPA Potential Hazardous Waste Site Inspection Report (Form 2070-13) for the Estwing site is provided in Appendix B.

3.2 SITE REPRESENTATIVE INTERVIEW

Michael McAteer, FIT co-team leader, conducted an interview with Robert Mayer, President and Chief Operating Officer of Estwing Manufacturing; Paul Devers, Plant Manager of Estwing Manufacturing; and James E. Huff, Environmental Consultant of Huff and Huff, Inc. Sam Borries, FIT co-team leader, was also present at the interview. The interview was conducted at 9:00 a.m. on August 8, 1989, at the Estwing site, 2647

Eighth Street, Rockford, Illinois. The interview was conducted to gather information that would aid FIT with the site inspection.

3.3 RECONNAISSANCE INSPECTION

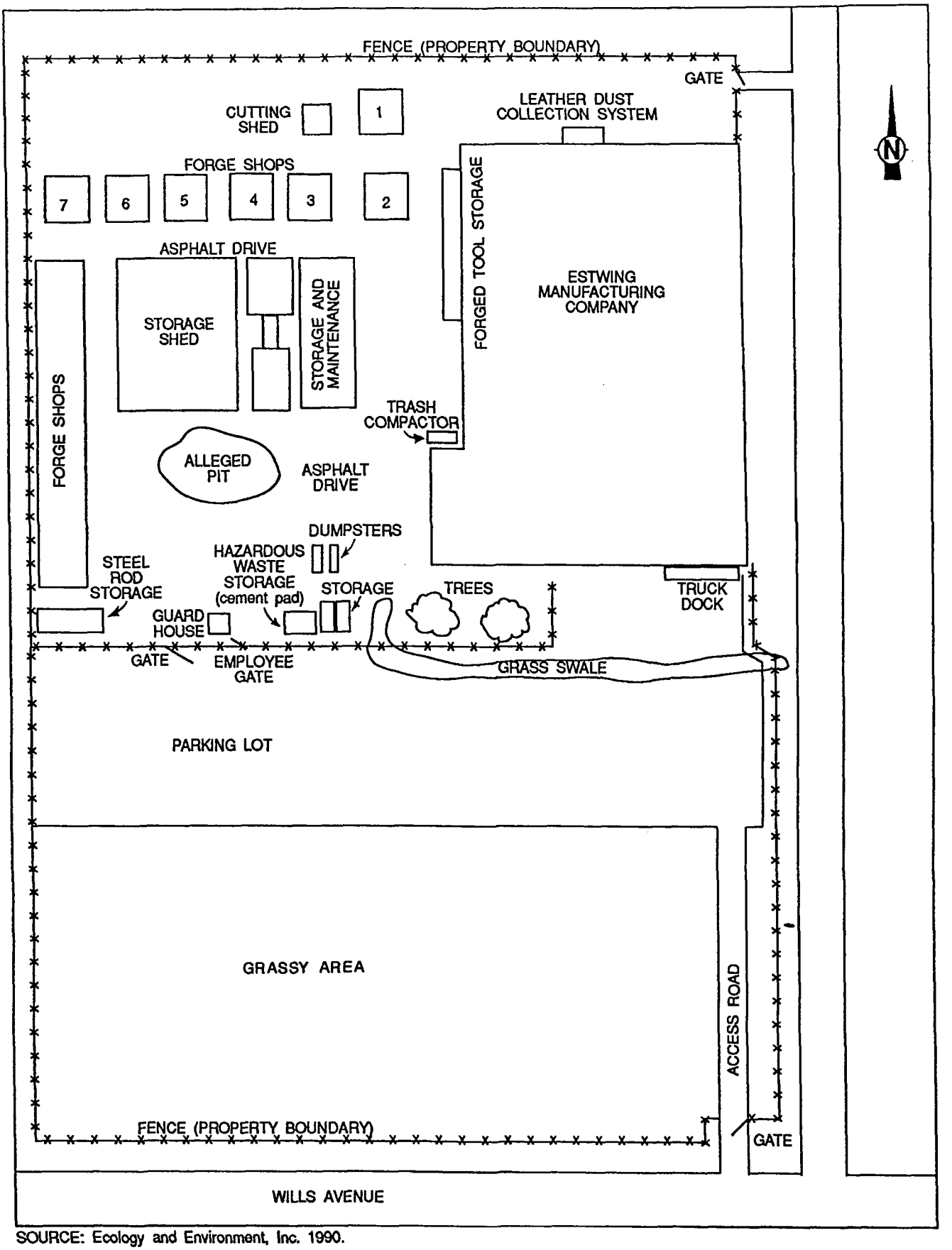
Following the site representative interview, FIT conducted a reconnaissance inspection of the Estwing site and surrounding area in accordance with Ecology and Environment, Inc. (E & E), health and safety guidelines.

The reconnaissance inspection was conducted an August 8, 1989, beginning at 11:50 a.m. FIT was accompanied by Devers and Huff. The reconnaissance inspection included a walk-through of the site to determine appropriate health and safety requirements for conducting on-site activities and to make observations to aid in characterizing the site. FIT also determined sampling locations during the reconnaissance inspection.

Reconnaissance Inspection Observations. The Estwing site is a rectangularly-shaped parcel of land, of approximately 7.5 acres, in an industrial area of Rockford. The nearest residence is approximately 100 feet from the southeastern corner of the Estwing site. On-site topography is relatively flat, except along Eighth Street, where the site is elevated a few feet above Eighth Street. Topography immediately surrounding the Estwing site is relatively flat.

A general contractor occupies property adjacent to the Estwing site on the north and west sides of the site and across Wills Avenue to the south of the site. Further west of the Estwing site is Rockford Products, a manufacturer of fasteners. Within a radius of a few blocks of the Estwing site are a number of small industries and businesses, including oil and chemical companies and trucking terminals.

The Estwing site is currently completely fenced, with 24-hour surveillance by security guards. Prior to 1987, the south end of the Estwing site was not fenced and security guards were not employed at the site (Devers 1989). Two gates allow access to the Estwing site. One gate is at the southeastern boundary and the other is along the northeastern boundary of the site (see Figure 3-1 for site features).



SOURCE: Ecology and Environment, Inc. 1990.

SCALE

0 100 200 300

FIGURE 3-1 SITE FEATURES

The northeastern portion of the site is occupied by the main facility building. This building houses both administrative and manufacturing operations. North of the main facility building is the leather dust collection system. This system collects dust from the sanding and shaping process for leather and vinyl/polyvinyl handles. Along the west side of the main facility building is a trash compactor for daily garbage and an open, roofed storage area for forged tools waiting to be polished. Forge shops line the northern and western boundaries of the Estwing site. The older forge shops are near the northern boundary; newer forge shops are along the western boundary. The newer forge shops were built in 1989 (Devers 1989). Between the new forge shops and the main facility building are storage and maintenance buildings and an area for steel rod storage. The steel rod storage consists of 16-foot lengths of steel rods that are cut to size for the forging process.

Southwest of the main facility building is a guard house, a hazardous waste storage pad, and a paint and lacquer concrete block storage building. The hazardous waste storage pad is an uncovered, unmarked, completely fenced pad with a single entry gate on the north side. The concrete pad is approximately 18 by 28 feet and curbed. The pad is sloped, so that liquid runoff collects in a sump in the southwest corner of the pad. Six 55-gallon drums were present in the hazardous waste storage area at the time of FIT's site inspection. The hazardous waste storage area is bordered by small areas of open grass on its west and south sides. The north side of the hazardous waste storage area is bordered by an asphalt drive and the eastern side is bordered by the paint and lacquer storage building.

North of the hazardous waste storage area and paint and lacquer storage building are two 15-cubic-yard roll-off dumpsters for solid waste disposal (mill scale, scrubber sludge, and buffing compound) (Devers 1989). The pit where paint and solvents allegedly were deposited is north of the guard house in the open area west of the main facility building (Henninger 1987). Most of this area and the area around all of the buildings on-site is paved with asphalt. Along the southwest corner of the main facility building is a grassy area with a

couple of shade trees. This area includes picnic tables and is used by Estwing Manufacturing employees as a break area.

Between this grassy area and the paint and lacquer storage building a narrow drainage swale begins. This drainage swale is graveled for a short length before it becomes covered with grass. The drainage swale runs east toward Eighth Street. It crosses over a truck dock drive at the southeast corner of the main facility building, and proceeds down a concrete flume onto Eighth Street. Water in the swale eventually ends up in the municipal storm water drainage system.

South of the main facility building and the grass swale is an employee parking lot. A fence separates the parking lot from the building on-site. Between the parking lot and Wills Avenue on the south is a large grassy area.

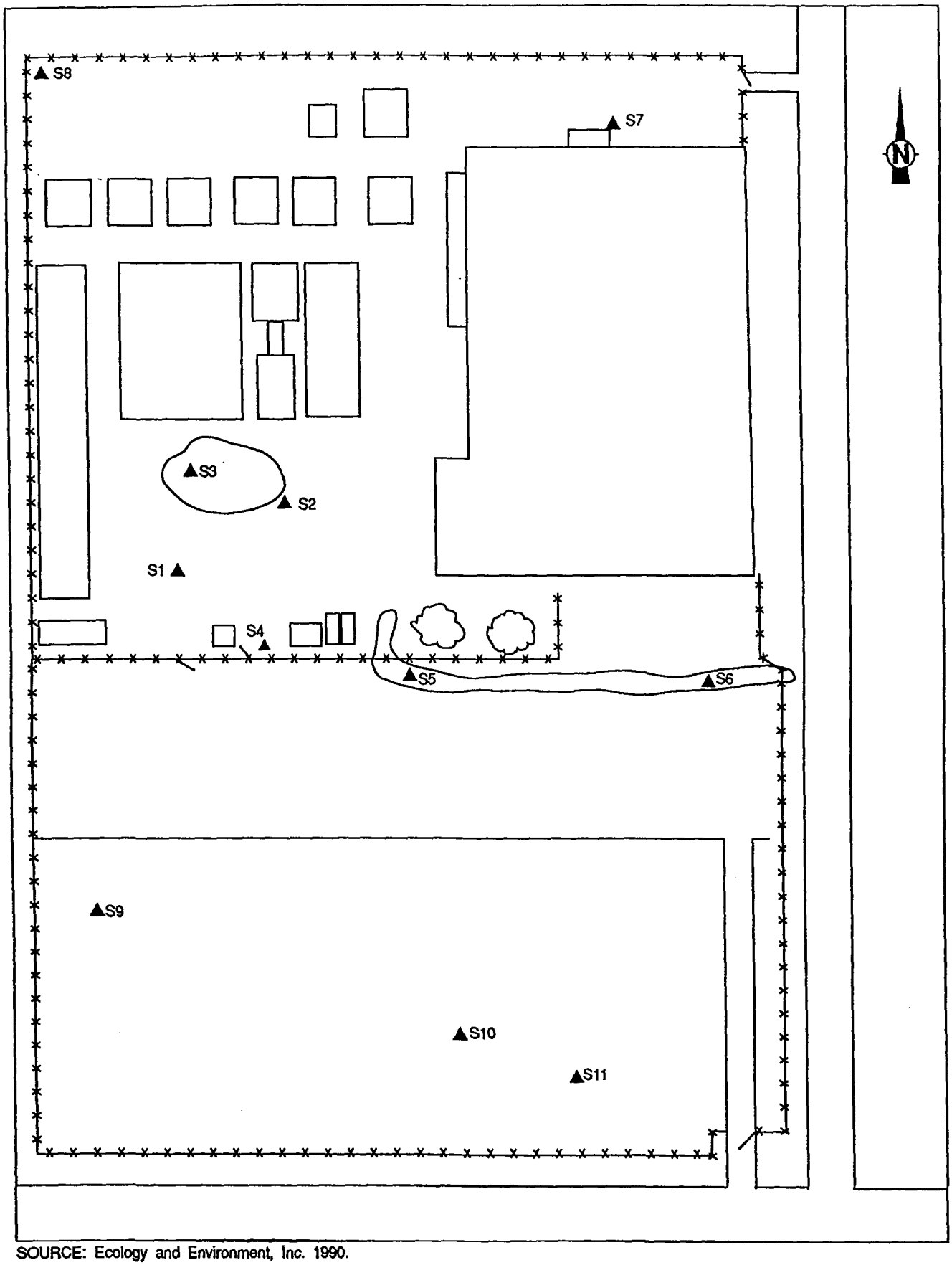
One week prior to FIT's inspection of this site, all parking and asphalt paved surfaces were sealed with a blacktop sealer (Devers 1989; Huff 1989; Mayers 1989). This was evident around the edges of drives and parking lots where fresh oil coated the grass and soil. West of the new forge shops and along the western boundary of the Estwing site, recent grading of the gravel surface was finished for a storage area. It appeared that fresh gravel had been spread over all gravel surfaces at the Estwing site.

3.4 SAMPLING PROCEDURES

Samples were collected by FIT at locations selected during the reconnaissance inspection to determine whether U.S. EPA Target Compound List (TCL) compounds or U.S. EPA Target Analyte List (TAL) analytes were present at the site. The TCL and TAL, with corresponding quantitation/detection limits, are provided in Appendix D.

On August 8, 1989, FIT collected four subsurface soil samples, five surface soil samples, one potential background subsurface soil sample, and one potential background surface soil sample. FIT collected three residential well samples on August 9, 1989. Portions of the collected soil samples were offered to and accepted by a site representative.

Soil Sampling Procedures. Subsurface soil samples S1 and S2, and surface soil sample S3 were collected in and around the area where dumping of paint and solvents allegedly occurred (see Figure 3-2 for soil



SOURCE: Ecology and Environment, Inc. 1990.

SCALE

0 100 200 300

FIGURE 3-2 SOIL SAMPLING LOCATIONS

sampling locations). Soil sample S3 was collected in a small shallow gully that flowed into the area of the alleged pit. Soil samples S1, S2, and S3 were collected in an area that was used to store construction material and equipment during the construction of the new forge shops (Devers 1989).

Surface soil sample S4 was collected in a grassy area along the western side of the hazardous waste storage pad. Within a few feet of this sampling location is the employee entrance located alongside the guard house.

Surface soil S5 was collected from the drainage swale southeast of the lacquer and paint storage building. Sample S5 was collected in a slight depression in the bottom of the drainage swale south of the fence line.

Surface soil sample S6 was collected from the grass-covered drainage swale located south of the shipping docks. Surface runoff from much of the Estwing site enters the swale, crosses the drive leading to the truck dock, and runs down a concrete flume onto Eighth Street.

Surface soil sample S7 was collected north of the main facility building between the building and the asphalt drive. The sample was collected near the leather dust bagging containers located close to open overhead doors. Approximately 2 to 4 inches of gravel was removed from the surface before the sample was collected.

Subsurface soil sample S8 was collected in the far northwestern corner of Estwing site in a gravel-covered area that is used for equipment storage. Approximately 2 inches of gravel was removed from the surface before the sample was collected. Pieces of old bricks were encountered at a depth of 10 to 12 inches in the sampling hole.

Subsurface soil sample S9 was collected from a small drainage swale located south of the western portion of the employee parking lot. This swale leads to a shallow grass-covered depression along the southwestern fence line of the Estwing site where surface water runoff collects.

Subsurface soil sample S10 was collected near the center of the large grassy area located south of the employee parking lot. The sampling location was approximately 100 feet south of the employee parking lot. This sample was collected as a potential subsurface background

soil sample to determine the representative chemical content of the soil on-site.

Surface sample S11 was collected in the southeast corner of the site near the southern entrance gate, approximately 10 to 15 feet north of the southern fence line. Sample S11 was collected as a potential background surface soil sample to determine the representative chemical content of the soil on-site.

Surface soil samples S1, S4, S5, S6, and S11 were collected using a garden trowel to dig 6 to 12 inches below the surface. Soil at this depth was collected in a bowl and then transferred to sample bottles using the garden trowel (E & E 1987). Subsurface soil samples S2, S3, S7, S9, and S10 were collected using a posthole digger, trowel, and bowl. For samples S7, S9, and S10 the posthole digger was used to achieve a depth of approximately 1 foot. Soil from this depth was collected with the posthole digger and placed in a bowl, then transferred to sample bottles using a trowel. Samples S2 and S3 were collected by digging to depths of 3 to 3 1/2 feet with the posthole digger. Soil was then collected and placed in a bowl and then transferred to sample bottles using a trowel (E & E 1987).

Soil sample S8 was collected using a soil auger, trowel, and bowl. The soil auger was used to dig to a depth of 12 to 14 inches, where soil was collected and deposited in a bowl. The soil was then transferred from the bowl to sample bottles using a trowel (E & E 1987).

Standard E & E decontamination procedures were adhered to during the collection of all soil samples. The procedures included the scrubbing of all equipment (e.g., posthole digger, soil auger, trowels, and bowls) with a solution of detergent (Alconox) and distilled water, and triple-rinsing the equipment with distilled water before the collection of each sample (E & E 1987). All soil samples were packaged and shipped in accordance with U.S. EPA-required procedures.

As directed by U.S. EPA, all soil samples were analyzed using the U.S. EPA Contract Laboratory Program (CLP) for TCL compounds by Pacific Analytical, Inc., of Carlsbad, California, and for TAL analytes by Skinner and Sherman, Inc., of Waltham, Massachusetts, and JTC Environmental Consultants of Gaithersburg, Maryland.

Residential Well Sampling Procedures. Three residential well samples were collected to determine whether TCL compounds and/or TAL analytes had migrated from the site to local groundwater.

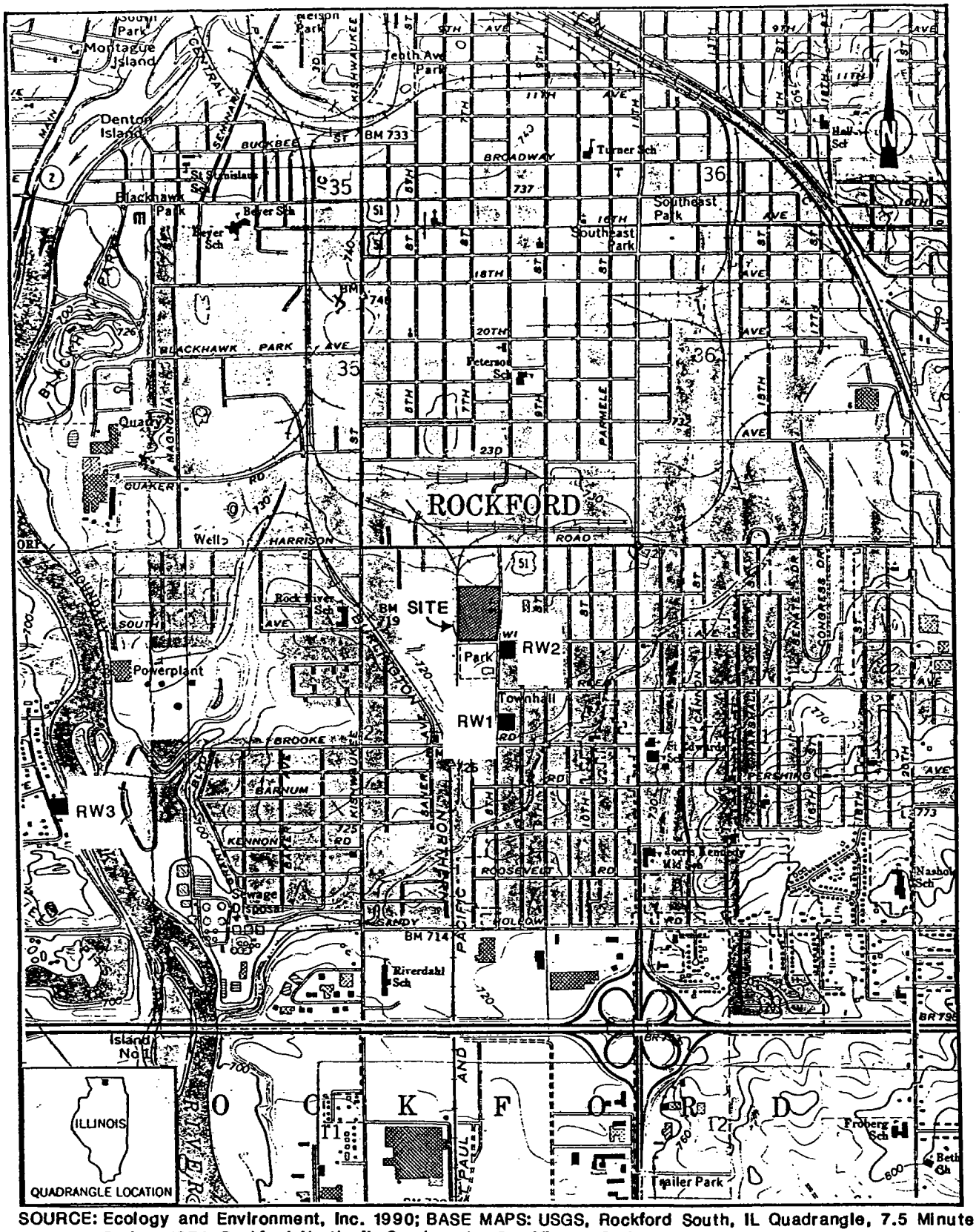
Residential well sample RW1 was collected from a private residence located approximately 1,000 feet southeast of the site on Eighth Street (see Figure 3-3 for residential well sampling locations). According to a well log, this well is 50 feet deep and draws from a sand and gravel aquifer (well logs of the area are provided in Appendix E).

Residential well sample RW2 was collected from a private residence located approximately 250 feet southeast of the site. According to the well owner, the well is 150 feet deep. It is not known from what unit the well draws water.

Residential well sample RW3 was collected as a potential background sample from a private residence located approximately 1 1/4 miles southwest of the site. Well depth and formation for sample RW3 are unknown.

All residential well samples were obtained from outlets that bypassed water treatment systems and storage tanks. Water was allowed to discharge from the outlets for 15 minutes before samples were collected to ensure that the sample sources had been purged of standing water (E & E 1987). In accordance with U.S. EPA quality assurance/quality control requirements, a duplicate residential well sample and a field blank sample were collected. The field blank sample was prepared from distilled water. The duplicate sample was collected at location RW1 (see Table 3-1 for addresses of residential well sampling locations).

As directed by U.S. EPA, all residential well samples were analyzed using the U.S. EPA CLP for TCL compounds by Pacific Analytical, Inc., of Carlsbad, California, and for TAL analytes by Skinner and Sherman, Inc., of Waltham, Massachusetts, and JTC Environmental Consultants of Gaithersburg, Maryland.



SOURCE: Ecology and Environment, Inc. 1990; BASE MAPS: USGS, Rockford South, IL Quadrangle, 7.5 Minute Series, 1976; Rockford North, IL Quadrangle, 7.5 Minute Series, 1976.

FIGURE 3-3 RESIDENTIAL WELL SAMPLING LOCATIONS

Table 3-1

ADDRESSES OF RESIDENTIAL WELL SAMPLING LOCATIONS

Sample	Address
RW1 (Duplicate)	2938 Eighth Street Rockford, IL 61109
RW2	2810 Eighth Street Rockford, IL 61109
RW3	3708 Algonquin Road Rockford, IL 61102

Source: Ecology and Environment, Inc. 1990.

4. ANALYTICAL RESULTS

4.1 INTRODUCTION

This section presents results of the chemical analysis of FIT-collected soil and residential well samples for TCL compounds and TAL analytes.

4.2 RESULTS OF CHEMICAL ANALYSIS OF FIT-COLLECTED SAMPLES

Soil Samples. Chemical analysis of FIT-collected soil samples revealed substances from the following groups of TCL compounds and TAL analytes: halogenated hydrocarbons, ketones, aromatics, phenols, polyaromatic hydrocarbons (PAHs), pesticides, heavy metals, metals, common laboratory artifacts, and common soil constituents (methylene chloride, 4-methyl-2-pentanone, di-n-butylphthalate, bis[2-ethylhexyl]-phthalate); cyanide was also detected (see Table 4-1 for complete chemical analysis results of FIT-collected soil samples).

Residential Well Samples. Chemical analysis of FIT-collected residential well samples revealed substances from the following groups of TCL compounds and TAL analytes: halogenated hydrocarbons, heavy metals, metals, and common soil constituents (see Table 4-2 for complete chemical analysis results of FIT-collected residential well samples).

Quantitation/detection limits used in the analysis of soil and residential well samples are provided in Appendix D.

The analytical data for the chemical analysis of soil and residential well samples collected for this SSI have been reviewed by U.S. EPA and FIT for compliance with terms of the FIT contract, and the review has been approved by U.S. EPA. Any additions, deletions, or changes to

the data have been incorporated in the chemical analysis results tables presented in this section.

Table 4-1
RESULTS OF CHEMICAL ANALYSIS OF
PIT-COLLECTED SOIL SAMPLES

Sample Collection Information and Parameters	Sample Number S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11
Date	8/8/89	8/8/89	8/8/89	8/8/89	8/8/89	8/8/89	8/8/89	8/8/89	8/8/89	8/8/89	8/8/89
Time	1320	1325	1345	1430	1450	1510	1525	1540	1610	1620	1634
CLP Organic Traffic Report Number	EFM95	EFM96	EEL93	EEL94	EEL95	EEL96	EEL97	EEL98	EEL99	EFF92	EFF93
CLP Inorganic Traffic Report Number	MEDZ85	MEDZ86	MEDZ87	MEDZ88	MEDZ89	MEDZ90	MEDZ91	MEDZ92	MEDZ93	MEDZ94	MEDZ95
Compound Detected (values in ug/kg)											
Volatile Organics											
methylene chloride	53JB	40JB	--	--	--	--	--	--	--	46JB	65JB
1,1,1-trichloroethane	--	--	--	--	--	--	--	--	2J	--	--
benzene	--	1J	--	--	--	--	--	1J	2J	1J	1J
4-methyl-2-pentanone	--	--	--	--	--	--	--	--	--	3J	--
2-hexanone	--	--	--	--	--	--	--	--	--	4J	--
1,1,2,2-tetrachloroethane	--	--	--	--	--	--	--	--	--	2J	--
Semivolatile Organics											
4-methylphenol	71J	--	--	--	--	--	--	--	--	--	--
naphthalene	--	--	--	--	--	31J	49J	--	--	--	--
2-methylnaphthalene	--	--	--	--	--	37J	65J	--	--	--	--
acenaphthylene	--	--	--	--	--	32J	81J	--	--	--	--
acenaphthene	--	--	--	--	--	31J	220J	--	--	--	26J
dibenzofuran	--	--	--	--	--	31J	320J	--	--	--	13J
phenanthrene	38J	33J	--	39J	--	620J	6,300	120J	--	--	360J
anthracene	--	--	--	--	--	120J	2,000	18J	--	--	72J
di-n-butylphthalate	220J	--	--	71J	--	77J	330J	24J	--	170J	63J
fluoranthene	69J	45J	--	88J	--	1,500	9,600	250J	--	23J	930
pyrene	48J	50J	--	66J	--	1,000	6,200	170J	--	21J	630J
benzo[a]anthracene	29J	43J	--	40J	--	710J	4,600	95J	--	16J	360J
chrysene	41J	66J	--	64J	--	780	4,100	120J	--	17J	450J
bis(2-ethylhexyl)phthalate	--	--	--	610JB	600JB	1,800B	--	960B	--	--	--
benzo[b]fluoranthene	64J	--	--	55J	--	860	4,000	--	--	--	550J
benzo[k]fluoranthene	--	--	--	59J	--	860	3,500	--	--	--	400J
benzo[a]pyrene	--	--	--	47J	--	770	3,800	--	--	--	440J
indeno[1,2,3-cd]pyrene	--	--	--	--	--	300J	860	--	--	--	200J
benzo[g,h,i]perylene	--	--	--	--	--	--	610J	--	--	--	--

Table 4-1 (Cont.)

Sample Collection Information and Parameters	Sample Number S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11
Pesticides/PCBs											
Heptachlor	--	--	--	--	--	--	10J	--	--	--	--
Dieldrin	--	--	--	--	--	14J	--	--	--	--	--
Endrin	--	--	--	--	6.1J	--	3.0J	--	--	--	--
alpha Chlordane	--	--	--	--	--	23J	--	--	--	--	--
gamma Chlordane	--	--	--	--	--	16J	--	--	--	--	--
Analyte Detected (values in mg/kg)											
aluminum	5,070	5,310	1,350	8,020	4,100	4,720	7,590	5,670	5,750	1,810	2,920
arsenic	3.9	2.1B	1.3B	4.6	10.4	4.1	5.3	4.7	2.8	1.2B	2.2
barium	61	60.5	11.3B	104	40.6B	84.5	88.8	55.9	56.1	13.2B	63.9
beryllium	--	0.96B	--	0.49B	--	0.25B	0.24B	--	--	--	--
cadmium	--	--	--	3.0	--	6.8	--	--	--	0.91B	17.6
calcium	9,130	10,700	1,400	12,400	1,580	8,220	6,270	12,500	962B	12,400	12,100
chromium	11.4	24.6	4.3	15.3	21	27.5	13	16.7	7.5	5.5	46.8
cobalt	3.4B	--	1.5B	4.9B	2.9B	3.1B	5.1B	3.9B	3.6B	--	2.1B
copper	7.6J*	24.7J*	4.5J*B	9.8J*	26J*	43.8J*	16J*	16.7J*	5.9J*	3.9J*B	24.3J*
iron	7,600	9,370	3,250	10,900	10,200	11,800	13,300	16,700	7,380	2,960	6,470
lead	17.2JN	37.1JN	1.8JN	30.5JN	140JN	117JN	33.5JN	36.4JN	6.4JN	2.5JN	43.4JN
magnesium	4,490	56,800	1,050	7,510	1,200	4,470	3,650	7,530	916B	6,820	6,660
manganese	270	1,310	107	462	132	297	382	330	283	42.7	163
mercury	--	--	--	--	--	0.12	--	--	--	--	0.26
nickel	8.6B	8.6B	3.4B	8.0B	16.5	16.4	10.2	10.1	6.2B	4.2B	8.7B
potassium	573B	464B	99.7B	706B	359B	453B	569B	426B	340B	163B	295B
sodium	64.9JB	263B	44.9JB	93JB	129B	98.2JB	109JB	83.8JB	69.5JB	52.3JB	67.1JB
vanadium	13.4	8.1B	5.1B	20.1	15.8	13.8	19.2	14.5	16.2	7.3B	11.2
zinc	38.2	60.2	10.9J	59.5	251	163	9.1	57.4	25.4	19.5	159
cyanide	--	--	--	1.2	--	2.0	--	--	--	1.9	17

-- Not detected.

Table 4-1 (Cont.)

COMPOUND QUALIFIERS	DEFINITION	INTERPRETATION
J	Indicates an estimated value.	Compound value may be semiquantitative.
B	This flag is used when the compound is found in the associated blank as well as in the sample. It indicates possible/ probable blank contamination and warns the data user to take appropriate action.	Compound value may be semiquantitative if it is <5x the blank concentration (<10x the blank concentrations for common laboratory artifacts: phthalates, methylene chloride, acetone, toluene, 2-butanone).

ANALYTE QUALIFIERS	DEFINITION	INTERPRETATION
N	Spike recoveries outside QC protocols, which indicates a possible matrix problem. Data may be biased high or low. See spike results and laboratory narrative.	Value may be quantitative or semi-quantitative.
*	Duplicate value outside QC protocols which indicates a possible matrix problem.	Value may be quantitative or semiquantitative.
B	Value is real, but is above instrument DL and below CRDL.	Value may be quantitative or semi-quantitative.
J	Value is above CRDL and is an estimated value because of a QC protocol.	Value may be semiquantitative.

Source: Ecology and Environment, Inc. 1990.

Table 4-2
RESULTS OF CHEMICAL ANALYSIS OF
FIT-COLLECTED RESIDENTIAL WELL SAMPLES

Sample Collection Information and Parameters	Sample Number RW1	Duplicate	RW2	RW3	Blank
Date	8/9/89	8/9/89	8/9/89	8/9/89	8/9/89
Time	1040	1100	1120	1250	1130
CRL Log Number	89FM26S95	89FM26D95	89FM26S96	89FM26S97	89FM11R66
CLP Inorganic Traffic Report Number	MEDZ97	MEDZ98	MEDZ99	MEY332	MEY333
Well Depth (feet)	50	50	150	N/A	N/A
Temperature (°C)	12	12	12	14	N/A
Specific Conductivity (μmhos/cm)	450	450	530	510	N/A
pH	6.51	6.51	6.55	6.60	N/A
Compound Detected (values in μg/L)					
Volatile Organics					
1,1-dichloroethene	—	—	4	—	—
1,1-dichloroethane	2	2	6	—	—
1,2-dichloroethene (total)	1	1	5	—	—
chloroform	—	—	1	—	1
1,1,1-trichloroethane	2	2	22	—	—
trichloroethene	—	—	5	—	—
tetrachloroethene	1J	1J	—	—	—
Analyte Detected (values in μg/L)					
arsenic	—	—	—	2.2JB	2.5JB
barium	33B	32.5B	26.8B	297	—
cadmium	0.34JB	0.32JB	—	—	—
calcium	83,400N	83,100N	83,800N	89,300N	—
chromium	—	9.1B	—	—	—
cobalt	—	6.9B	—	—	—

Table 4-2 (Cont.)

Sample Collection Information and Parameters	Sample Number RW1	Duplicate	RW2	RW3	Blank
iron	93.5B	—	125	—	—
lead	—	1.1JB	1.3JB	—	—
magnesium	34,200N	34,400N	31,200N	57,300N	—
mercury	—	—	0.21	—	—
potassium	1,920B	1,870B	2,780	4,170	843B
selenium	9.0J*	3.9J*	7.8J*	6.6J*	3.1J+*
silver	—	—	12.4N	—	—
sodium	12,000	11,700	24,700	22,400	—
thallium	—	—	—	2.0J+	—
zinc	96.7N	91.2N	—	41.9N	—

N/A Not available.
— Not detected.

Table 4-2 (Cont.)

COMPOUND QUALIFIER	DEFINITION	INTERPRETATION
J	Indicates an estimated value.	Compound value may be semiquantitative.

ANALYTE QUALIFIERS	DEFINITION	INTERPRETATION
N	Spike recoveries outside QC protocols, which indicates a possible matrix problem. Data may be biased high or low. See spike results and laboratory narrative.	Value may be quantitative or semi-quantitative.
*	Duplicate value outside QC protocols which indicates a possible matrix problem.	Value may be quantitative or semi-quantitative.
+	Correlation coefficient for standard additions is less than 0.995. See review and laboratory narrative.	Data value may be biased.
B	Value is real, but is above instrument DL and below CRDL.	Value may be quantitative or semi-quantitative.
J	Value is above CRDL and is an estimated value because of a QC protocol.	Value may be semiquantitative.

Source: Ecology and Environment, Inc. 1990.

5. DISCUSSION OF MIGRATION PATHWAYS

5.1 INTRODUCTION

This section presents discussions of data and information pertaining to potential migration pathways and targets of TCL compounds and TAL analytes that are possibly attributable to the Estwing site.

The five migration pathways of concern discussed are groundwater, surface water, air, fire and explosion, and direct contact.

5.2 GROUNDWATER

TCL compounds and TAL analytes were detected in residential well samples collected in the vicinity of the Estwing site. TCL compounds and TAL analytes detected in off-site residential well samples do not appear to be attributable to the site because the TCL compounds and TAL analytes detected in off-site residential well samples do not completely correlate with TCL compounds and TAL analytes detected in on-site soil samples. Additionally, various other companies and businesses located in the vicinity of the Estwing site are potential sources of the substances detected in residential well samples.

A potential does exist for TCL compounds and TAL analytes to migrate from the site to groundwater in the vicinity of the site. This potential is based on the following information.

- TCL compounds and TAL analytes have been detected in on-site soil samples in concentrations similar to that of the background samples (also collected on-site).

- Portions of waste material handled on-site are in liquid form.

- Allegedly, paint and solvents were deposited into a pit on-site; no evidence is available suggesting that the pit had a liner.

The potential for TCL compounds and TAL analytes to migrate to groundwater in the vicinity of the site is based on the following geological information.

- Groundwater in the Rockford area is derived primarily from three different geologic units that, in many areas, are hydraulically connected. These aquifers are: 1) approximately 250 feet of Pleistocene glacial drift; 2) approximately 600 feet of Ordovician dolomites; and 3) approximately 2,000 feet of Cambrian sandstones (Wehrmann 1988).

- The city of Rockford is located over the Rock Bedrock Valley, an ancient river valley filled with Pleistocene glacial deposits (Wehrmann 1988).

- Glacial deposits overlie the jointed and fractured Ordovician dolomites; in deeper areas of Rock Bedrock Valley, glacial deposits overlie the St. Peter sandstone (Wehrmann 1988).

- Except for the Esmond till, most of the tills in the Rockford area are sandy. The Esmond till is a clay till located mainly in central Rockford, approximately 3 miles north of the Estwing site (Wehrmann 1988).

- Area well logs (see Appendix E) indicate that the Quaternary glacial deposits consist of sand and gravel with discontinuous clay lenses. The thickest clay unit is 61

feet thick. Clay lenses are found from 3 to 82 feet below the surface. Sand and gravel deposits are located at 2 to 114 feet and are underlain by a dolomite unit.

The unconfined sand and gravel formations, dolomites, and St. Peter sandstone combine to form the aquifer of concern. The overlying sand and gravel formations are in contact with the dolomites; in deeper portions of the Rock Bedrock Valley they are in contact with the St. Peter sandstone (Wehrmann 1988).

Static water level measurements from area well logs indicate that the depth to groundwater ranges from 25 to 75 feet, with an average of approximately 55 feet. Groundwater flow direction is westerly toward the Rock River, except in areas where pumpage rates may disrupt flow direction (Wehrmann 1988).

The target population for potential groundwater contamination is the approximately 141,343 persons who use groundwater from private and municipal wells located within a 3-mile radius of the site. This target population was calculated as described below.

According to 1980 Census information, an average of 2.76 persons per household reside in Winnebago County (U.S. Bureau of the Census 1982). This average was multiplied by a house count of 591 derived from a United States Geological Survey (USGS) topographic map of the area of the site (USGS 1971), for a total of approximately 1,631 persons living outside of the Rockford municipal water supply boundaries but within a 3-mile radius of the Estwing site. The number of private wells in Rockford is unknown. The city of Rockford has a population of 139,712 persons who are served by 38 municipal wells, 13 of which are located within a 3-mile radius of the site. Water from all municipal wells is blended before distribution; therefore, the total population is included in the target population (Garson 1986). Adding the populations using municipal water and private wells yields a target population of approximately 141,343 persons.

The nearest well to the site is a private well located approximately 250 feet to the southeast.

5.3 SURFACE WATER

The Rock River, the nearest surface water body to the Estwing site, is located approximately 1 mile west of the site. FIT did not observe any surface water migration pathways from the site to the Rock River. A lack of migration pathways exists based on the following information.

- Surface water runoff from the site is collected through the city storm drains.

- Intervening features, such as streets, railroads, and buildings, decrease the possibility of overland migration.

5.4 AIR

A release of TCL compounds or TAL analytes to the air was not documented during the SSI of the Estwing site. During the reconnaissance inspection, FIT site-entry instruments (OVA 128, radiation monitor, hydrogen cyanide detector, explosimeter, and oxygen meter) did not detect levels above background concentrations at the site. In accordance with the U.S. EPA-approved work plan, further air monitoring was not conducted by FIT.

A limited potential does exist for TCL compounds and TAL analytes to migrate from the site via windblown particulates. This limited potential is based on the following information.

- The entire site is largely paved, gravel covered, or grass covered.

- Estwing Manufacturing has plans to construct a warehouse storage facility in the near future in the small, unpaved, poorly vegetated area around sampling locations S1, S2, and S3 (Devers 1989). Disturbance of this area could cause TCL compounds and TAL analytes to migrate from the site via windblown particulates.

5.5 FIRE AND EXPLOSION

According to federal, state, and local file information reviewed by FIT, and an interview with Fire Chief Leighty of the Rockford Fire Department, no documentation exists of an incident of fire or explosion at the site (Leighty 1990). According to FIT observations and site-entry equipment readings, no potential for fire or explosion existed at the site at the time of the SSI.

Ed Woodington of the Rockford Fire Department has indicated that no past fire hazards have existed at the Estwing site (Woodington 1990).

5.6 DIRECT CONTACT

According to federal, state, and local file information reviewed by FIT, observations made during the SSI, and the interview with the site representatives, no incident of direct contact with TCL compounds or TAL analytes at the Estwing site have been documented.

A limited potential does exist for direct contact at the Estwing site as liquid waste is kept in 55-gallon sealed drums. These drums are stored on a concrete pad with a sump. The pad is fenced for limited access.

6. REFERENCES

Devers, Paul, August 8, 1989, Plant Manager, Estwing Manufacturing, interview, conducted by Michael McAteer of E & E.

E & E, 1987, Quality Assurance Project Plan Region V FIT Conduct Site Inspections, Chicago, Illinois.

Garson, Tom, October 21, 1986, Assistant Superintendent, Rockford Water Department, telephone conversation, contacted by Michael R. Kulbersh of E & E.

Henninger, Tom, December 2, 1986, DLPC, complainant investigation form.

_____, March 11, 1987, IEPA Inspector, IEPA Inspection Report for Estwing Manufacturing Company, Rockford, Illinois.

Huff, James E., August 8, 1989, Environmental Consultant, to Estwing Manufacturing, interview, conducted by Michael McAteer of E & E.

Huff, J. E., and L. L. Huff, 1987, Closure Plan for Estwing Manufacturing Company Drum Storage Area, prepared by Huff and Huff, Inc., environmental consultants, LaGrange, Illinois.

IEPA, December 27, 1987, Potential Hazardous Waste Site Preliminary Assessment, for Estwing Manufacturing Company, U.S. EPA ID: ILD005212394, prepared by Timothy J. Murphy, Springfield, Illinois.

Leighty, February 6, 1990, Fire Chief, Rockford Fire Department, Rockford, Illinois, telephone conversation, contacted by Sam Borries of E & E.

Mayer, Robert, August 8, 1989, President and Chief Operating Officer, Estwing Manufacturing, interview, conducted by Michael McAteer of E & E.

U.S. Bureau of the Census, 1982, 1980 Census of Population, Characteristics of the Population, General Population Characteristics, Illinois, Washington, D.C.

U.S. EPA, February 12, 1988, Office of Solid Waste and Emergency Response, Pre-Remedial Strategy for Implementing SARA, Directive number 9345.2-01, Washington, D.C.

USGS, 1971, photorevised 1976, Rockford South, Illinois Quadrangle, 7.5 Minute Series: 1:24,000.

Wehrmann, Allen H., et al., 1988, A Regional Groundwater Quality Characterization of the Rockford Area, Winnebago County, Illinois, prepared for the Illinois Hazardous Waste Research and Information Center, State of Illinois.

Woodington, Ed, February 6, 1990, Underground Storage Tank Director, Rockford Fire Department, Rockford, Illinois, telephone conversation, contacted by Sam Borries of E & E.

4616:3

APPENDIX A

SITE 4-MILE RADIUS MAP

SDMS US EPA Region V

Imagery Insert Form

Some images in this document may be illegible or unavailable in SDMS.
Please see reason(s) indicated below:

☐ Illegible due to bad source documents. Image(s) in SDMS is equivalent to hard copy.

Specify Type of Document(s) / Comments:

☐ Includes ___ COLOR or RESOLUTION variations.
Unless otherwise noted, these pages are available in monochrome. The source document page(s) is more legible than the images. The original document is available for viewing at the Superfund Records Center.

Specify Type of Document(s) / Comments:

☐ Confidential Business Information (CBI).
This document contains highly sensitive information. Due to confidentiality, materials with such information are not available in SDMS. You may contact the EPA Superfund Records Manager if you wish to view this document.

Specify Type of Document(s) / Comments:

☒ Unscannable Material:
Oversized __ or __x__ Format.
Due to certain scanning equipment capability limitations, the document page(s) is not available in SDMS. .

Specify Type of Document(s) / Comments:

OVERSIZE MAP – 4 MILE RADIUS MAP

☐ Document is available at the EPA Region 5 Records Center.

Specify Type of Document(s) / Comments:

APPENDIX B

U.S. EPA FORM 2070-13

Site Inspection Report

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

EPA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	D005212394

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Estwing Manufacturing Co.	2647 Eighth Street

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Rockford	IL	61101	Winnebago	201	16

09 COORDINATES LATITUDE	LONGITUDE
42 14 20.0	089 09 48.0

10 TYPE OF OWNERSHIP (Check one)
■ A. PRIVATE ☐ B. FEDERAL _____ ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER _____ ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION (MONTH DAY YEAR)	02 SITE STATUS	03 YEARS OF OPERATION (BEGINNING YEAR / ENDING YEAR)
8 8 89	■ ACTIVE ☐ INACTIVE	~1928 / present ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)
☐ A. EPA ■ B. EPA CONTRACTOR Ecology & Environment (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR _____ (Name of firm)
☐ E. STATE ☐ F. STATE CONTRACTOR _____ (Name of firm) ☐ G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Sam Borries	Geologist	E & E	(312) 663-9415
09 OTHER INSPECTORS	**10 TITLE**	**11 ORGANIZATION**	**12 TELEPHONE NO.**
Mike McAteer	Geographer	E & E	(312) 663-9415
Stan Senger	Water Resource Manager	E & E	(312) 663-9415
Jennifer Dubay	Natural Resource Manager	E & E	(312) 663-9415
Andrea Davis	Geographer	E & E	(312) 663-9415
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Robert Mayer	President	2647 Eighth St. Rockford IL 61109-1190	(815) 397-9521
Paul Devers	Plant Manager	2647 Eighth St. Rockford IL 61109-1190	(815) 397-9521
James E. Huff	Environmental Consultant	Suite 100, 512 W. Burlington La Grange IL 60525	(312) 579-5974
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
■ PERMISSION ☐ WARRANT	11:50 a.m.	partly cloudy, light breeze from SW in a.m. high temp. ~75°, light breeze from NW in p.m.

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Tom Crause	Illinois EPA	(217) 782-9848

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE (MONTH DAY YEAR)
Samuel Borries	U.S. EPA	Ecology & Environment	(312) 663-9415	11 22 89

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	D005212394

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ■ A SOLID
- ☐ B POWDER, FINES
- ☐ C SLUDGE
- ☐ D OTHER _____ (Specify)
- ☐ E SLURRY
- ■ F LIQUID
- ☐ G GAS

02 WASTE QUANTITY AT SITE
(Measures of waste quantities must be independent)

- TONS _____
- CUBIC YARDS unknown
- NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- ■ A TOXIC
- ☐ B CORROSIVE
- ☐ C RADIOACTIVE
- ■ D PERSISTENT
- ☐ E SOLUBLE
- ☐ F INFECTIOUS
- ☐ G FLAMMABLE
- ☐ H IGNITABLE
- ☐ I HIGHLY VOLATILE
- ☐ J EXPLOSIVE
- ☐ K REACTIVE
- ☐ L. INCOMPATIBLE
- ☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			See NARRATIVE Subsection 2.3, Alleged dumping on-site.
SOL	SOLVENTS	unknown		
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	unknown		
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	unknown		

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
	see Table 4-1 of Narrative				

V. FEEDSTOCKS (See Appendix for CAS Numbers) N/A

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- SSI of Estwing Manufacturing Company 8-8-89
- State and FIT file information, Region 5

EPA FORM 2070-13(7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: IL | 02 SITE NUMBER: D005212394

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ■ A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: ~141,343
02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

SEE NARRATIVE Subsection 5.2

01 ☐ B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 0
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

SEE NARRATIVE SUBSECTION 5.3

01 ☐ C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: 0
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

SEE NARRATIVE SUBSECTION 5.4

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED: 0
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

SEE NARRATIVE SUBSECTION 5.5

01 ☐ E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: 0
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

SEE NARRATIVE SUBSECTION 5.6

01 ■ F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: ~7.5 (Acres)
02 ■ OBSERVED (DATE: 8-8-89) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

SEE TABLE 4-1

01 ■ G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: ~141,343
02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

SEE NARRATIVE SUBSECTION 5.2

01 ■ H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: ~350
02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

· Personnel disposing of waste may potentially come into contact with contaminants on-site

01 ☐ I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: 141,343
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

SEE NARRATIVE SUBSECTION 5.6

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: IL | 02 SITE NUMBER: D005212394

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ■ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
The potential exists for damage to the surrounding flora from TCL compounds and TAL analytes detected on-site.

01 ■ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)
The potential for damage to local fauna (i.e. rabbits) exists due to the fact TCL compounds & TAL analytes have been detected in on-site soil samples.

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
A limited potential exists through local fauna feeding on local flora

01 ■ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ~350
04 NARRATIVE DESCRIPTION
Until 1983 Estwing mixed their paint waste with oil and burned it in a make-shift heater for energy recovery. Then from some time in 1983 the waste was collected and stored on site until June 1986 before disposal. The condition of these storage containers is unknown.

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
NONE

01 ■ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
A potential may exist for storm drain contamination. A portion of surface water runoff from Estwing flows onto Eighth Street.
SEE Narrative Subsection 3.4 & 5.3

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
NONE

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
Alleged dumping of paint waste and solvents in pit.

III. TOTAL POPULATION POTENTIALLY AFFECTED: ~141343

IV. COMMENTS
None

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)
- SSI of Estwing Manufacturing Company, 8-8-89
- State and FIT File information, Region 5

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	D005212394

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☒ G. STATE (Specify)	2010305291	1986	unknown	Illinois Generator Report
☐ H. LOCAL (Specify)				
☒ I. OTHER (Specify)	ILD005212394	1986	unknown	U.S. EPA Generator Number
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
■ C. DRUMS, ABOVE GROUND	unknown	
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☐ F. LANDFILL		
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply): N/A
- ☐ A. INCENERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER (Specify)

05 OTHER
- ■ A. BUILDINGS ON SITE: 15

06 AREA OF SITE: ~7.5 (Acres)

07 COMMENTS
None

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one): past (alleged pit)
- ■ A. ADEQUATE, SECURE present
- ■ B. MODERATE past (drum condition unknown)
- ☐ C. INADEQUATE, POOR
- ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.
SEE Narrative Subsection 3.3

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☐ YES ■ NO

02 COMMENTS
SEE Narrative Subsection 3.3

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)
- SSI of Estwing Manufacturing Company, 8-8-89
- State and FIT file information, Region 5

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	D005212394

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A. ☐	B. ■
NON-COMMUNITY	C. ☐	D. ■

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A. ☐	B. ☐	C. ■
D. ☐	E. ☐	F. ☐ unknown

03 DISTANCE TO SITE

A. ~1 (mi)
B. ~250 ft (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

■ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER ~141,343

03 DISTANCE TO NEAREST DRINKING WATER WELL ~250 ft (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
~55 (ft)	westerly	~55 (ft)	unknown (gpd)	☐ YES ■ NO

09 DESCRIPTION OF WELLS (Including useage, depth, and location relative to population and buildings)

SEE NARRATIVE SUBSECTION 3.4

10 RECHARGE AREA		11 DISCHARGE AREA	
■ YES ☐ NO	COMMENTS: rainfall infiltration	☐ YES ☐ NO	COMMENTS: unknown

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

■ A. RESERVOIR (RECREATION) DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Rock River	☐	1 (mi)
	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. ~9,350 NO OF PERSONS	B. ~33,750 NO OF PERSONS	C. ~59,750 NO OF PERSONS

02 DISTANCE TO NEAREST POPULATION

~100 ft (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE

~12,230

04 DISTANCE TO NEAREST OFF-SITE BUILDING

~5 ft (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

SEE NARRATIVE SUBSECTION 2.2

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	D005212394

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☐ B. $10^{-4} - 10^{-6}$ cm/sec ☐ C. $10^{-4} - 10^{-3}$ cm/sec ■ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☐ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ■ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
31 to 114 (ft)	unk. (ft)	unk.	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
3.56 (in)	2.45 (in)	< 3 %	SE	< 3 %

09 FLOOD POTENTIAL

SITE IS IN unk. YEAR FLOODPLAIN

10 N/A ☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE: A. N/A (mi) OTHER: B. > 3 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

N/A (mi)

ENDANGERED SPECIES: N/A

13 LAND USE IN VICINITY

DISTANCE TO:

(COMMERCIAL/INDUSTRIAL) (RESIDENTIAL AREAS) NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES AGRICULTURAL LANDS: PRIME AG LAND AG LAND

A. border site (mi) B. 100 ft. (mi) C. unk (mi) D. ~ 1 1/2 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

SEE APPENDIX "A"

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- USGS Topographic Map, Rockford South, Illinois, Quadrangle
- State and FIT File information, Region 5

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IL	D0052/2394

II. SAMPLES TAKEN SEE NARRATIVE SUBSECTION 3.4

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL			
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
OVA 128	No Readings Above Background
Explosimeter	No Readings Above Background
O_2 Meter	No Readings Above Background
Radiation Mini Alert	No Readings Above Background
Hydrogen Cyanide Detector	No Readings Above Background

IV. PHOTOGRAPHS AND MAPS

01 TYPE ■ GROUND ☐ AERIAL

02 IN CUSTODY OF Ecology and Environment - Chicago
(Name of organization or individual)

03 MAPS ■ YES ☐ NO

04 LOCATION OF MAPS E!E Chicago

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

pH, conductivity, and temperature readings were taken at each residential well sample. SEE TABLE 4-2

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- SSI of Estwing Manufacturing Company, 8-8-89

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	D0052/2394

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Estwing Manufacturing Co.		2647 Eighth St.		Rockford	IL	61101

PARENT COMPANY (If applicable)

08 NAME	09 D+B NUMBER	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	12 CITY	13 STATE	14 ZIP CODE
N/A						

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Petroleum Motors		unknown				

IV. REALTY OWNER(S) (If applicable, list most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
N/A						

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- SSI of Estwing Manufacturing Company, 8-8-89

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION
01 STATE: IL | 02 SITE NUMBER: D005212394

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
same as owner		unknown	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD # etc.)	13 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	14 CITY	15 STATE / 16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER		

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
same as previous owners		unknown	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD # etc.)	13 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	14 CITY	15 STATE / 16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD		
01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD # etc.)	13 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	14 CITY	15 STATE / 16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD		
01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD # etc.)	13 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	14 CITY	15 STATE / 16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD		

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- SSI of Estwing Manufacturing Company, 8-8-89

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	D005212394

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
Same as owner	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
none			

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
LWD, Inc			

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
Off Hwy 1523 P.O. Box 327			

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
Calvert City	KY	42029			

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
Wal-Rock			

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
Turtle Creek Landfill			

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
Darien	WI	53114			

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- SSI interview - Estwing Manufacturing Company, 8-8-89

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IL	D0052(2394

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: N/A

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: N/A

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: N/A

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: N/A

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: N/A

01 ☐ F. WASTE REPACKAGED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: N/A

01 ■ G. WASTE DISPOSED ELSEWHERE — 02 DATE June 1986 — 03 AGENCY IEPA
04 DESCRIPTION: waste solvents taken to LWD in Kentucky (Calvert City)
SEE NARRATIVE SUBSECTION 2.3

01 ☐ H. ON SITE BURIAL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: N/A

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: N/A

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: N/A

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: N/A

01 ☐ L. ENCAPSULATION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: N/A

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: N/A

01 ☐ N. CUTOFF WALLS — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: N/A

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: N/A

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: N/A

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION: N/A

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IL	D005212394

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION N/A

01 ☐ S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION N/A

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION N/A

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION N/A

01 ☐ V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION N/A

01 ☐ W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION N/A

01 ☐ X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION N/A

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION N/A

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION N/A

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION N/A

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION N/A

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION None

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- State and FIT file information, Region 5
- SSI of Estwing Manufacturing Company, 8-8-89

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IL	D005212394

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ■ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

SEE NARRATIVE SUBSECTION 2.3

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

- SSI of Estwing Manufacturing Company, 8-8-89

EPA FORM 2070-13 (7-81)

APPENDIX C

FIT SITE PHOTOGRAPHS

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Estwing Mfg. Co. PAGE 1 OF 19

U.S. EPA ID: ILD005212394 TDD: F05-8808005 PAN: FIL0656SB

DATE: 8/8/89

TIME: 1335

DIRECTION OF PHOTOGRAPH: N

WEATHER CONDITIONS: pt. cloudy 75°

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): S1

DESCRIPTION: Perspective view of soil sample location S1

DATE: 8/8/89

TIME: 13:35

DIRECTION OF PHOTOGRAPH: N

WEATHER CONDITIONS: pt. cloudy ~75°

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): S1

DESCRIPTION: Close up view of soil sample location S1

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Estwing Mfg. Co. PAGE 2 OF 19

U.S. EPA ID: ILD005212394 TDD: F05-8808005 PAN: FIL0656SB

DATE: 8/8/89

TIME: 13:30

DIRECTION OF PHOTOGRAPH: SE

WEATHER CONDITIONS: pt. cloudy · 75°

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): S-2

DESCRIPTION: Perspective view of soil sample location S2

DATE: 8/8/89

TIME: 13:30

DIRECTION OF PHOTOGRAPH: SE

WEATHER CONDITIONS: pt. cloudy ~75°

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): S2

DESCRIPTION: Close up view of soil sample location S2

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Estwing Mfg. Co. PAGE 3 OF 19

U.S. EPA ID: ILD005212394 TDD: F05-8808005 PAN: FIL0656SB

DATE: 8/8/89

TIME: 13:45

DIRECTION OF PHOTOGRAPH: W

WEATHER CONDITIONS: pt. cloudy 75°

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): S3

DESCRIPTION: Perspective view of soil sample location S3

DATE: 8/8/89

TIME: 13:45

DIRECTION OF PHOTOGRAPH: W

WEATHER CONDITIONS: pt. cloudy ~75°

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): S3

DESCRIPTION: Close up view of soil sample location S3

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Estwing Mfg. Co PAGE 4 OF 19

U.S. EPA ID: ILD005212394 TDD: F05-8808 005 PAN: FIL0656.5B

DATE: 8/8/89

TIME: 14:30

DIRECTION OF PHOTOGRAPH: SE

WEATHER CONDITIONS: pt. cloudy, 75°

H. Breeze

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): S4

DESCRIPTION: Close up view of soil sample location S4

DATE: 8/8/89

TIME: 14:30

DIRECTION OF PHOTOGRAPH: SE

WEATHER CONDITIONS: pt. cloudy, 75°

Lt. Breeze

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): S4

DESCRIPTION: Perspective view of soil sample location S4

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Estwing Mfg. Co. PAGE 5 OF 19

U.S. EPA ID: ILD005212394 TDD: F-05-8808-005 PAN: FIL0656SB

DATE: 8/8/89

TIME: 14:50

DIRECTION OF PHOTOGRAPH: NE

WEATHER CONDITIONS: pt. cloudy · 75°

PHOTOGRAPHED BY: Mike McAteer

SAMPLE ID (if applicable): SS

DESCRIPTION: Perspective view of soil sample location SS

DATE: 8/8/89

TIME: 14:50

DIRECTION OF PHOTOGRAPH: N

WEATHER CONDITIONS: pt. cloudy ~75°

PHOTOGRAPHED BY: Mike McAteer

SAMPLE ID (if applicable): SS

DESCRIPTION: Close up view of soil sample location SS

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Estwing Mfg. Co. PAGE 6 OF 19

U.S. EPA ID: ILD005212394 TDD: F05-8808005 PAN: FIL0656SB

DATE: 8/8/89

TIME: 15:10

DIRECTION OF PHOTOGRAPH: W

WEATHER CONDITIONS: pt. cloudy · 75°

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): S6

DESCRIPTION: Perspective view of soil sAmple location S6

DATE: 8/8/89

TIME: 15:10

DIRECTION OF PHOTOGRAPH: W

WEATHER CONDITIONS: pt. cloudy ~75°

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): S6

DESCRIPTION: Close up view of soil sample location S6

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Estwing Mfg. Co PAGE 7 OF 19

U.S. EPA ID: ILD005212394 TDD: F05-8808 005 PAN: FIL0656.SB

DATE: 8/8/89

TIME: 15:30

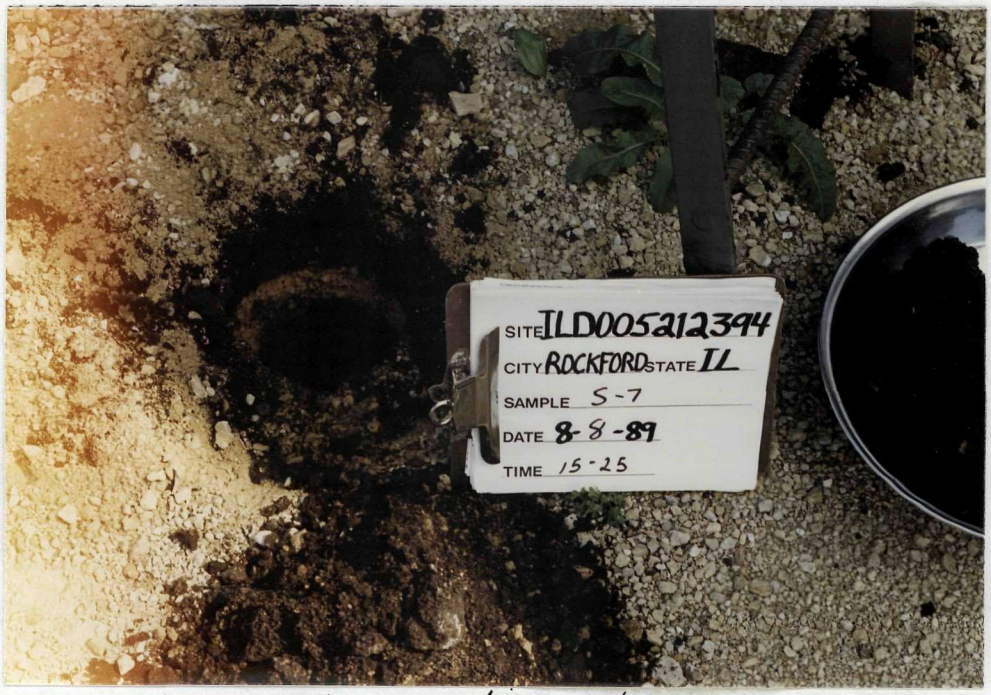
DIRECTION OF PHOTOGRAPH: E

WEATHER CONDITIONS: pt. cloudy, 75°

H. Breeze

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): S7



DESCRIPTION: Close up View of soil sample location S7

DATE: 8/8/89

TIME: 15:45

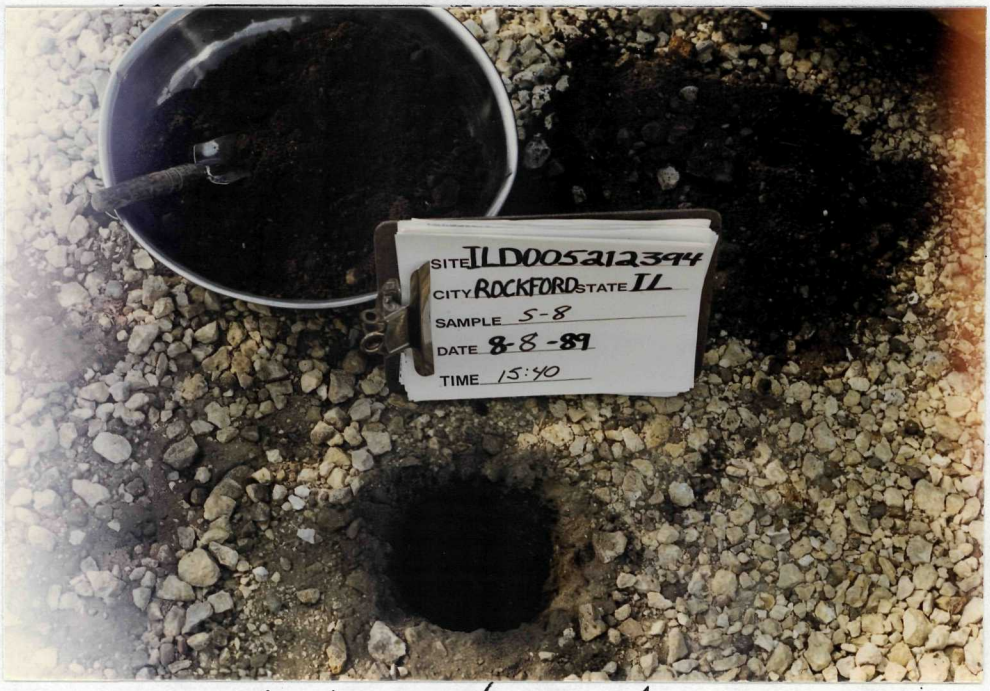
DIRECTION OF PHOTOGRAPH: SW

WEATHER CONDITIONS: pt. cloudy, 75°

Lt. Breeze

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): S8



DESCRIPTION: Close up view of soil sample location S8

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Estwing Mfg. Co. PAGE 8 OF 19

U.S. EPA ID: ILD005212394 TDD: F05-8808005 PAN: FIL0656SB

DATE: 8/8/89

TIME: 16:05

DIRECTION OF PHOTOGRAPH: NE

WEATHER CONDITIONS: pt. cloudy 75°

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): S9

DESCRIPTION: Perspective view of soil sample location S9

DATE: 8/8/89

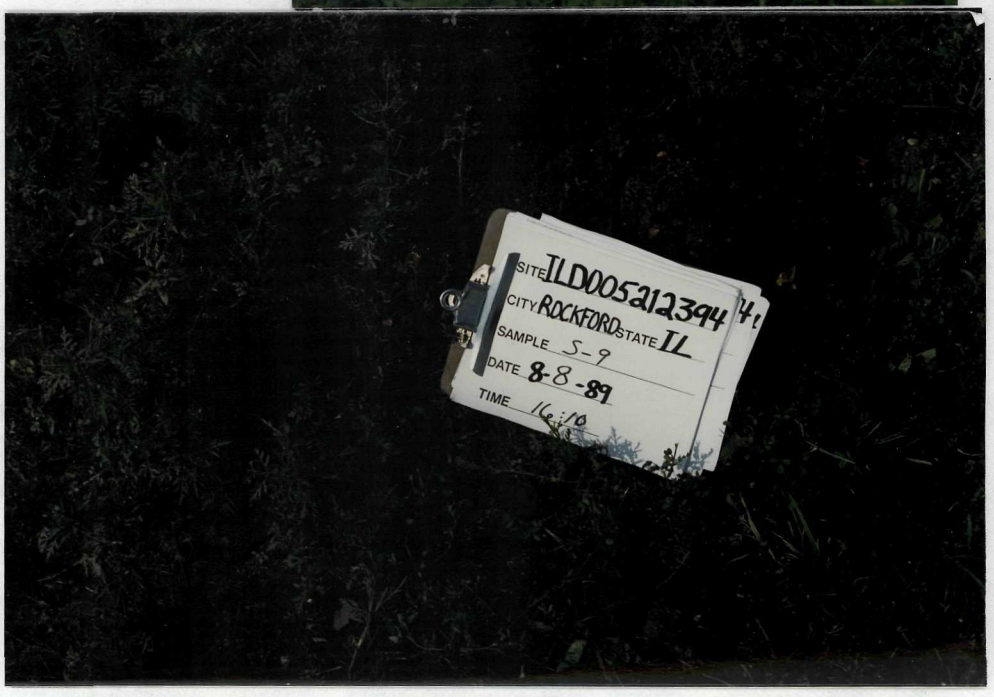
TIME: 16:05

DIRECTION OF PHOTOGRAPH: NE

WEATHER CONDITIONS: pt. cloudy ~75°

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): S9



DESCRIPTION: Close up view of soil sample location S9

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Estwing Mfg. Co PAGE 9 OF 19

U.S. EPA ID: ILD005212394 TDD: F05-8808 005 PAN: FIL0656.SB

DATE: 8/8/89

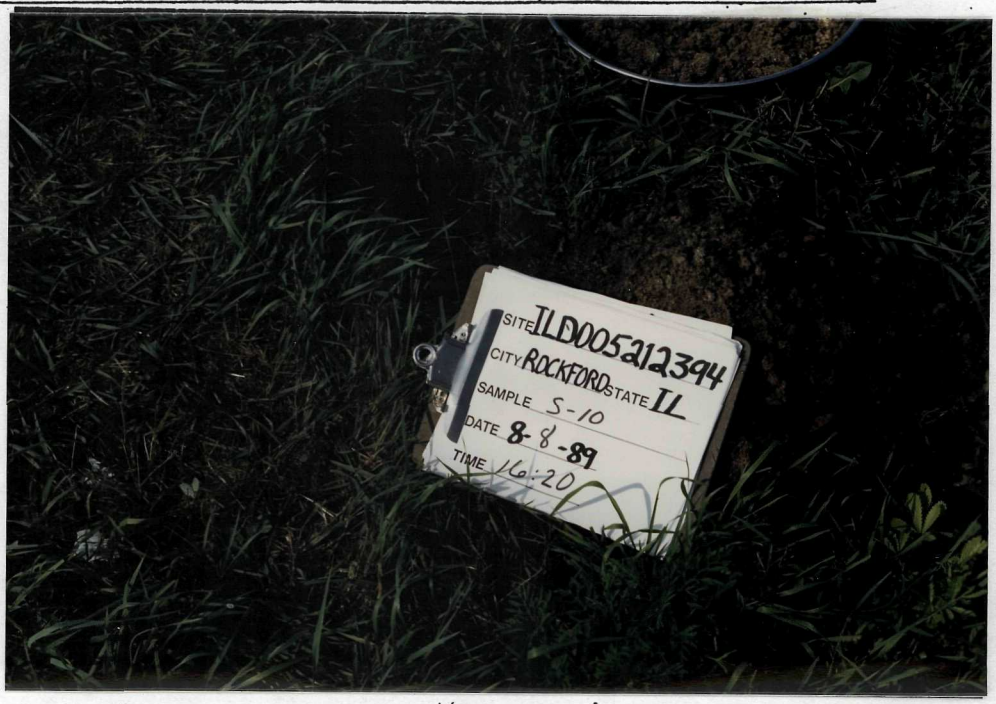
TIME: 16:20

DIRECTION OF PHOTOGRAPH: N

WEATHER CONDITIONS: pt. cloudy, 75°
Lt. Breeze

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): S10



DESCRIPTION: Close up view of soil sample location S10 (background deep)

DATE: 8/8/89

TIME: 16:20

DIRECTION OF PHOTOGRAPH: N

WEATHER CONDITIONS: pt. cloudy, 75°
Lt. Breeze

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): S10

DESCRIPTION: Perspective view of soil sample location S10 (background deep)

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Estwing Mfg. Co PAGE 10 OF 19

U.S. EPA ID: ILD005212394 TDD: F05-8808 005 PAN: FIL0656SB

DATE: 8/8/89

TIME: 16:34

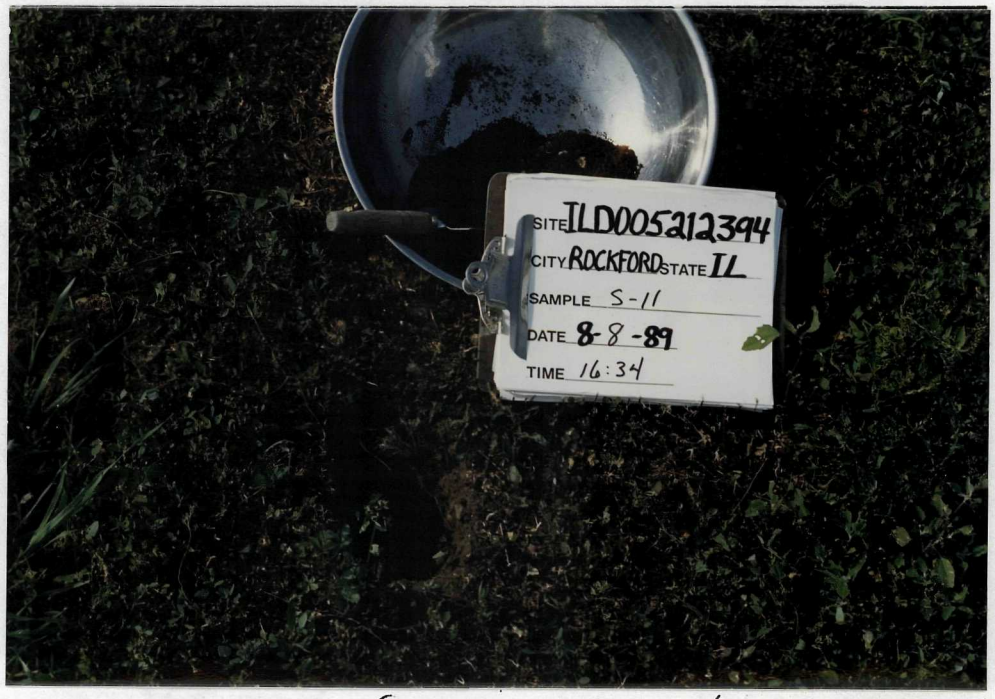
DIRECTION OF PHOTOGRAPH: NW

WEATHER CONDITIONS: pt. cloudy, 75°

Lt. Breeze

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): S11



DESCRIPTION: Close up view of soil sample location S11 (surface background)

DATE: 8/8/89

TIME: 16:34

DIRECTION OF PHOTOGRAPH: NW

WEATHER CONDITIONS: pt. cloudy, 75°

Lt. Breeze

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): S11

DESCRIPTION: Perspective view of soil sample location S11 (surface background)

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Estwing Mfg. Co PAGE 11 OF 19

U.S. EPA ID: ILD005212394 TDD: F05-8808 005 PAN: FIL0656.5B

DATE: 8/9/89

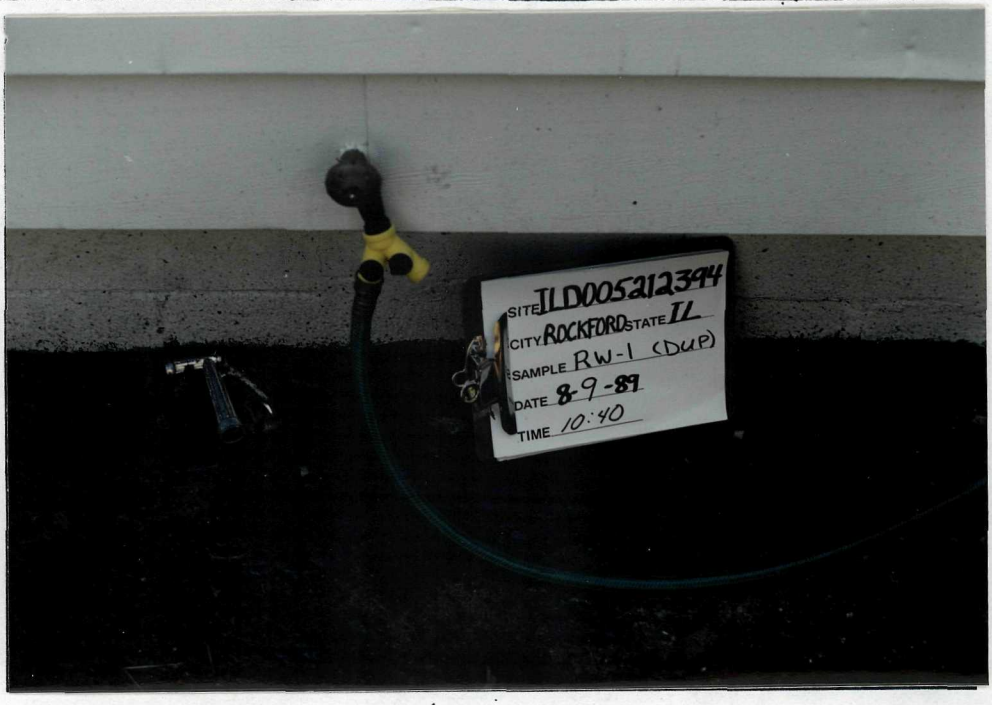
TIME: 10:40

DIRECTION OF PHOTOGRAPH: S

WEATHER CONDITIONS: pt. cloudy, 70° Lt. Breeze

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): RW 1



DESCRIPTION: Close up view of residential well sample location RW1

DATE: 8/9/89

TIME: 10:40

DIRECTION OF PHOTOGRAPH: E

WEATHER CONDITIONS: pt. cloudy, 70° Lt. Breeze

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): RW 1

DESCRIPTION: Street view of residential well sample location RW1

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Estwing Mfg. Co. PAGE 12 OF 19

U.S. EPA ID: ILD005212394 TDD: F05 8808 005 PAN: FIL06565B

DATE: 8/9/89

TIME: 11:20

DIRECTION OF PHOTOGRAPH: N

WEATHER CONDITIONS: pt. cloudy ~70°

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): RW2

DESCRIPTION: Close up view of Residental well sample location RW2

DATE: 8/9/89

TIME: 11:20

DIRECTION OF PHOTOGRAPH: NE

WEATHER CONDITIONS: pt. Cloudy ~70°

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): RW2

DESCRIPTION: Street view of residental well sample location RW2

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Estwing Mfg. Co. PAGE 13 OF 19

U.S. EPA ID: ILD005212394 TDD: F05 8808 005 PAN: FIL0656SB

DATE: 8/9/89

TIME: 12:50

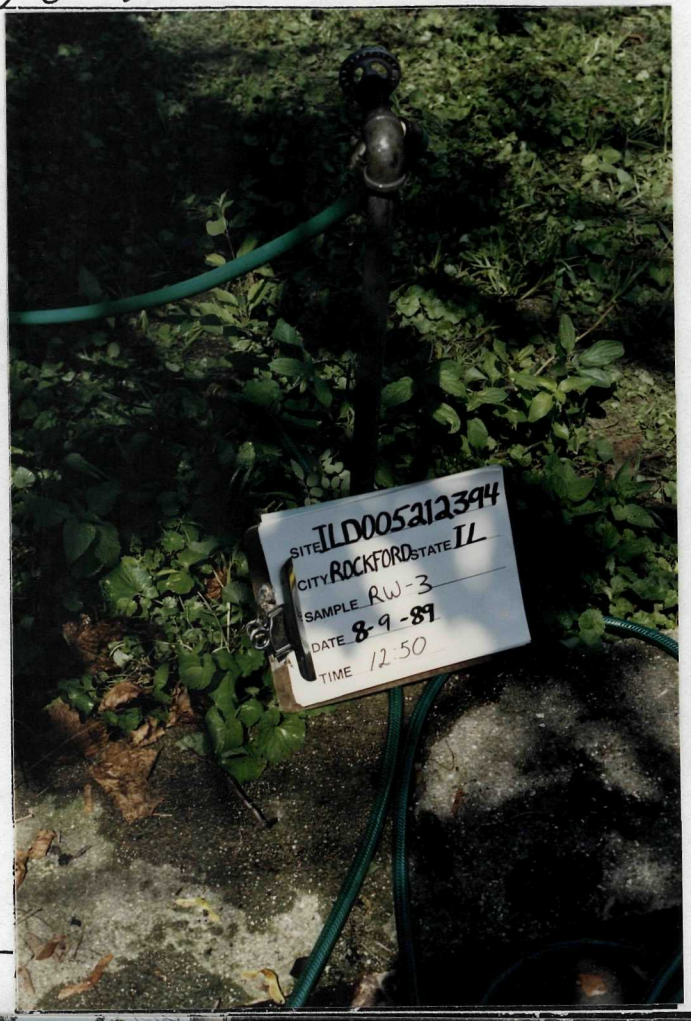
DIRECTION OF PHOTOGRAPH: NE

WEATHER CONDITIONS: pt. cloudy ~70°

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): RW-3

DESCRIPTION: Close up view of residential well sample location RW3 (background)



DATE: 8/9/89

TIME: 12:50

DIRECTION OF PHOTOGRAPH: N

WEATHER CONDITIONS: pt. cloudy ~70°

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): RW3

DESCRIPTION: Street view of residential well sample location RW3 (background)

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Estwing Mfg. Co PAGE 14 OF 19

U.S. EPA ID: ILD005212394 TDD: F05-8808 005 PAN: FIL0656.SB

DATE: 8/8/89

TIME: 12:00

DIRECTION OF PHOTOGRAPH: E

WEATHER CONDITIONS: pt. cloudy, 75°

Lt. Breeze

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): N/A

DESCRIPTION: Looking East down drive between old forge shops on the left and storage buildings along far right, near right new forge shop. Foreground, steel rods used in forging process.

DATE: 8/8/89

TIME: 13:10

DIRECTION OF PHOTOGRAPH: S

WEATHER CONDITIONS: pt. cloudy, 75°

Lt. Breeze

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): N/A

DESCRIPTION: Hazardous waste storage pad, looking south. Lacquer storage building on left.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Estwing Mfg. Co PAGE 15 OF 19

U.S. EPA ID: ILD005212394 TDD: F05-8808 005 PAN: FIL0656SB

DATE: 8/8/89

TIME: 17:09

DIRECTION OF PHOTOGRAPH: N

WEATHER CONDITIONS: pt. cloudy, 75° Lt. Breeze

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): N/A

DESCRIPTION: Guard house (south entrance) employee entrance.

DATE: 8/8/89

TIME: 17:35

DIRECTION OF PHOTOGRAPH: NE

WEATHER CONDITIONS: pt. cloudy, 75° Lt. Breeze

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): N/A

DESCRIPTION: Front of Estwing Mfg. facility located on 8th St.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Estwing Mfg. Co PAGE 16 OF 19

U.S. EPA ID: ILD005212394 TDD: F05-8808 005 PAN: FIL0656.SB

DATE: 8/8/89

TIME: 17:03

DIRECTION OF PHOTOGRAPH: SE

WEATHER CONDITIONS: pt. cloudy, 75°

lt. Breeze

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): N/A

DESCRIPTION: Hazardous waste storage area and lacquer storage building.

DATE: 8/8/89

TIME: 16:58

DIRECTION OF PHOTOGRAPH: S

WEATHER CONDITIONS: pt. cloudy, 75°

lt. Breeze

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): N/A

DESCRIPTION: Distant shot of guard house, lacquer storage building, hazardous waste storage pad and special waste containers.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Estwing Mfg. Co PAGE 17 OF 19

U.S. EPA ID: FLD005212394 TDD: F05-8808 005 PAN: FIL0656.SB

DATE: 8/8/89

TIME: 17:00

DIRECTION OF PHOTOGRAPH: SE

WEATHER CONDITIONS: pt. cloudy, 75° lt. Breeze

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): N/A

DESCRIPTION: Storage area for forged tools before polishing process.

DATE: 8/8/89

TIME: 17:01

DIRECTION OF PHOTOGRAPH: W

WEATHER CONDITIONS: pt. cloudy, 75° lt. Breeze

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): N/A

DESCRIPTION: New forge shops along western property boundary. Area of alleged lagoon in gravel area between the forge shop and edge of pavement in foreground.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Estwing Mfg. Co PAGE 18 OF 19

U.S. EPA ID: ILD005212394 TDD: F05-8808 005 PAN: FIL0656SB

DATE: 8/8/89

TIME: 16:52

DIRECTION OF PHOTOGRAPH: N

WEATHER CONDITIONS: pt. cloudy, 75°

Lt. Breeze

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): N/A

DESCRIPTION: West side of property, new forge shops on right.

DATE: 8/8/89

TIME: 16:54

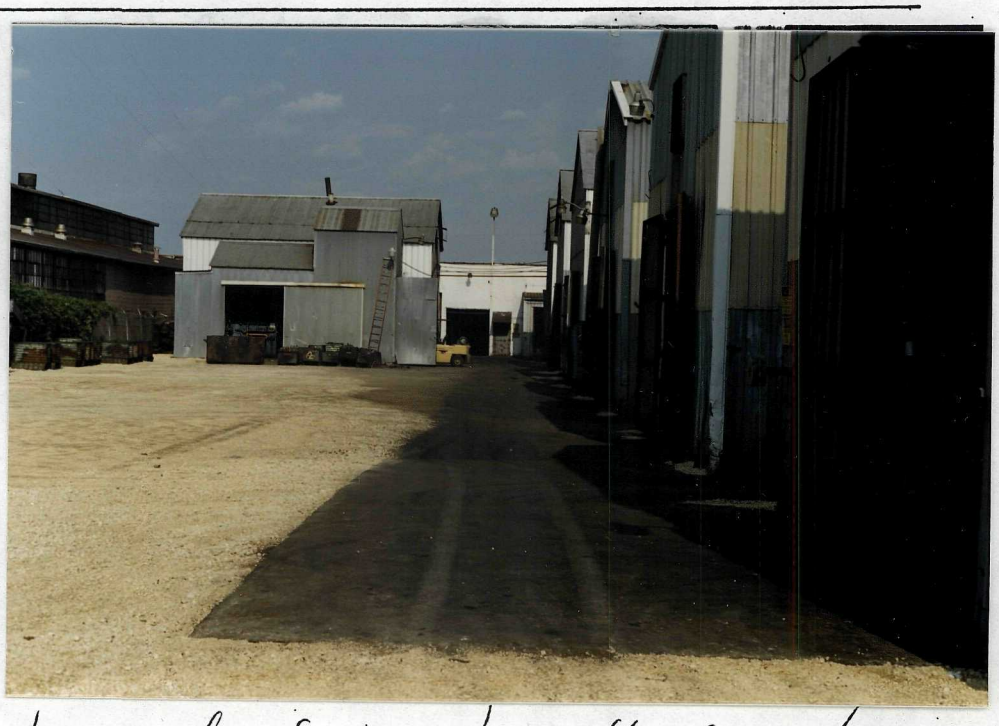
DIRECTION OF PHOTOGRAPH: E

WEATHER CONDITIONS: pt. cloudy, 75°

Lt. Breeze

PHOTOGRAPHED BY: Sam Borries

SAMPLE ID (if applicable): N/A



DESCRIPTION: Northern side of property, old forge shops on the right.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Estwing Mfg. Co. PAGE 19 OF 19

U.S. EPA ID: ILD005212394 TDD: F05-8808-005 PAN: FIL0656SB

DATE: 8/8/89 TIME: 17:13 DIRECTION OF PHOTOGRAPH: NE/NW PHOTOGRAPHED BY: Sam Barries

WEATHER CONDITIONS: pt cloudy ~75° SAMPLE ID (if applicable): NA

DESCRIPTION: Panoramic view of facility looking north from grass area south of parking lot.

D

Table A
Contract Laboratory Program
Target Compound List
Semivolatiles Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SLUDGE SEDIMENT
Fluorene	86-73-7	10 ug/L	330 ug/Kg
4-Nitroaniline	100-01-6	50	1600
4,6-Dinitro-2-methylphenol	534-52-1	50	1600
N-nitrosodiphenylamine	86-30-6	10	330
4-Bromophenyl-phenylether	101-55-3	10	330
Hexachlorobenzene	118-74-1	10	330
Pentachlorophenol	87-86-5	50	1600
Phenanthrene	85-01-8	10	330
Anthracene	120-12-7	10	330
Di-n-butylphthalate	84-74-2	10	330
Fluoranthene	206-44-0	10	330
Pyrene	129-00-0	10	330
Butylbenzylphthalate	85-68-7	10	330
3,3'-Dichlorobenzidine	91-94-1	20	660
Benzo(a)anthracene	56-55-3	10	330
Chrysene	218-01-9	10	330
bis(2-Ethylhexyl)phthalate	117-81-7	10	330
Di-n-octylphthalate	117-84-0	10	330
Benzo(b)fluoranthene	205-99-2	10	330
Benzo(k)fluoranthene	207-08-9	10	330
Benzo(a)pyrene	50-32-8	10	330
Indeno(1,2,3-cd)pyrene	193-39-5	10	330
Dibenz(a,h)anthracene	53-70-3	10	330
Benzo(g,h,i)perylene	191-24-2	10	330

Table A
Contract Laboratory Program
Target Compound List
Pesticide and PCB Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
alpha-BHC	319-84-6	0.05 ug/L	8 ug/Kg
beta-BHC	319-85-7	0.05	8
delta-BHC	319-86-8	0.05	8
gamma-BHC (Lindane)	58-89-9	0.05	8
Heptachlor	76-44-8	0.05	8
Aldrin	309-00-2	0.05	8
Heptachlor epoxide	1024-57-3	0.05	8
Endosulfan I	959-98-8	0.05	8
Dieldrin	60-57-1	0.10	16
4,4'-DDE	72-55-9	0.10	16
Endrin	72-20-8	0.10	16
Endosulfan II	33213-65-9	0.10	16
4,4'-DDD	72-54-8	0.10	16
Endosulfan sulfate	1031-07-8	0.10	16
4,4'-DDT	50-29-3	0.10	16
Methoxychlor (Mariate)	72-43-5	0.5	80
Endrin ketone	53494-70-5	0.10	16
alpha-Chlordane	5103-71-9	0.5	80
gamma-chlordane	5103-74-2	0.5	80
Toxaphene	8001-35-2	1.0	160
AROCLOR-1016	12674-11-2	0.5	80
AROCLOR-1221	11104-28-2	0.5	80
AROCLOR-1232	11141-16-5	0.5	80
AROCLOR-1242	53469-21-9	0.5	80
AROCLOR-1248	12672-29-6	0.5	80
AROCLOR-1254	11097-69-1	1.0	160
AROCLOR-1260	11096-82-5	1.0	160

Table A (Cont.)

CONTRACT LABORATORY PROGRAM

TARGET ANALYTE LIST (TAL)

INORGANIC DETECTION LIMITS

Compound	Procedure	Detection Limits Water (µg/L)	Detection Limits Soil Sediment Sludge (mg/kg)
aluminum	ICP	200	40
antimony	furnace	60	2.4
arsenic	furnace	10	2
barium	ICP	200	40
beryllium	ICP	5	1
cadmium	ICP	5	1
calcium	ICP	5,000	1,000
chromium	ICP	10	2
cobalt	ICP	50	10
copper	ICP	25	5
iron	ICP	100	20
lead	furnace	5	1
magnesium	ICP	5,000	1,000
manganese	ICP	15	3
mercury	cold vapor	0.2	0.008
nickel	ICP	40	8
potassium	ICP	5,000	1,000
selenium	furnace	5	1
silver	ICP	10	2
sodium	ICP	5,000	1,000
thallium	furnace	10	2
tin	ICP	40	8
vanadium	ICP	50	10
zinc	ICP	20	4
cyanide	color	10	2

3767:1

ADDENDUM C

SPECIAL ANALYTICAL SERVICES
DETECTION LIMITS

Drinking Water Samples

TABLE C
SPECIAL ANALYTICAL SERVICES DRINKING WATER
VOLATILE QUANTITATION LIMITS

PARAMETER	CAS #	DETECTION LIMIT IN REAGENT WATER
Benzene	71-43-2	1.5 ug/L
Bromodichloromethane	75-27-4	1.5
Bromoform	75-25-2	1.5
Bromomethane	74-83-9	1.5
Carbon tetrachloride	56-23-5	1.5
Chlorobenzene	108-90-7	1.5
Chloroethane	75-00-3	1.5
2-Chloroethyl vinyl ether	110-75-8	1.5
Chloroform	67-66-3	1.5
Chloromethane	74-87-3	1.5
Dibromochloromethane	124-48-1	1.5
1,1-Dichloroethane	75-34-3	1.5
1,2-Dichloroethane	107-06-2	1.5
1,1-Dichloroethene	75-35-4	1.5
Total-1,2-Dichloroethene	540-59-0	1.5
1,2-Dichloropropane	78-87-5	1.5
cis-1,3-Dichloropropene	10061-01-5	2
trans-1,3-Dichlopropropene	10061-02-6	1
Ethyl benzene	100-41-4	1.5
Methylene chloride *	75-09-2	1
1,1,2,2-Tetrachloroethane	79-34-5	1.5
Tetrachloroethene	127-18-4	1.5
Toluene *	108-88-3	1.5
1,1,1-Trichloroethane	71-55-6	1.5
1,1,2-Trichloroethane	79-00-5	1.5
Trichloroethene	79-01-6	1.5
Vinyl chloride	75-01-4	1.5
Acrolein	107-02-8	25
Acetone *	67-64-1	5
Acrylonitrile	107-13-1	25
Carbon disulfide	75-15-0	3
2-Butanone	78-93-3	5
Vinyl acetate	108-05-4	5
4-Methyl-2-pentanone	108-10-1	1.5
2-Hexanone	519-78-6	5
Styrene	100-42-5	1
Xylene (total)	1330-02-7	1.5

* Common laboratory solvents.
Blank limit is 5x method detection limit.
( ) Values in parentheses are estimates.
actual values are being determined at this time.

TABLE C (cont.)
SAS DRINKING WATER
SEMIVOLATILES QUANTITATION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Aniline	62-53-3	1.5 ug/l
Bis(2-chloroethyl)ether	111-44-4	1.5
Phenol	108-95-2	2
2-Chlorophenol	95-57-8	2
1,3-Dichlorobenzene	541-73-1	2
1,4-Dichlorobenzene	106-46-7	2
1,2-Dichlorobenzene	95-50-1	2.5
Benzyl alcohol	100-51-6	2
Bis(2-chloroisopropyl)ether	39638-32-9	2.5
2-Methylphenol	95-48-7	1
Hexachloroethane	67-72-1	2
n-Nitrosodipropylamine	621-64-7	1.5
Nitrobenzene	98-95-3	2.5
4-Methylphenol	106-44-5	1
Isophorone	78-59-1	2.5
2-Nitrophenol	88-75-5	2
2,4-Dimethylphenol	105-67-9	2
Bis(2-Chloroethoxy)methane	111-91-1	2.5
2,4-Dichlorophenol	120-83-2	2
1,2,4-Trichlorobenzene	120-82-1	2
Naphthalene	91-20-3	2
4-Chloroaniline	106-47-8	2
Hexachlorobutadiene	87-68-3	2.5
Benzoic Acid	65-85-0	20
2-Methylnapthalene	91-57-6	2
4-Chloro-3-methylphenol	59-50-7	1.5
Hexachlorocyclopentadiene	77-47-4	2
2,4,6-Trichlorophenol	88-06-2	1.5
2,4,5-Trichlorophenol	95-95-4	1.5
2-Chloronapthalene	91-58-7	1.5
Acenapthylhene	208-96-8	1.5
Dimethyl phthalate	131-11-3	1.5
2,6-Dinitrotoluene	606-20-2	1
Acenaphthene	83-32-9	1.5
3-Nitroaniline	99-09-2	2.5
Dibenzofuran	132-64-9	1
2,4-Dinitrophenol	51-28-5	(15)
2,4-Dinitrotoluene	121-14-2	1

TABLE C (Cont.)
SAS DRINKING WATER
SEMIVOLATILE QUANTITATION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Fluorene	86-73-7	1 ug/L
4-Nitrophenol	100-02-7	1.5
4-Chlorophenyl phenyl ether	7005-72-3	1
Diethyl phthalate .	84-66-2	1
4,6-Dinitro-2-methylphenol	534-52-1	(15)
1,2-Diphenylhydrazine	122-66-7	1
n-Nitrosodiphenylamine *	86-30-6	
Diphenylamine *	122-39-4	1.5
4-Nitroaniline	100-01-6	3
4-Bromophenyl-phenylether	101-55-3	1.5
Hexachlorobenzene	118-74-1	1.5
Pentachlorophenol	87-86-5	2
Phenanthrene	85-01-8	1
Anthracene	120-12-7	2.5
di-n-Butyl phthalate	84-74-2	2
Fluoranthene	206-44-0	1.5
Pyrene	129-00-0	1.5
Butyl benzyl phthalate	85-68-7	3.5
Chrysene **	218-01-9	
Benzo(A)Anthracene **	56-55-3	1.5
bis(2-ethylhexyl)phthalate	117-81-7	1
di-n-Octyl phthalate	117-84-0	1.5
Benzo(b)fluoranthene ***	205-99-2	
Benzo(k)fluoranthene ***	207-08-9	1.5
Benzo(a)pyrene	50-32-8	2
Indeno(1,2,3-cd)pyrene	193-39-5	3.5
Dibenzo(a,h)anthracene	53-70-3	2.5
Benzo(g,h,i)perylene	191-24-2	4
2-Nitroaniline	88-74-4	1

* These two parameters are reported as a total.
** These two parameters are reported as a total.
*** These two parameters are reported as a total.

( ) Values in parentheses are estimates.
The actual values are being determined at this time.

Note: Limits are for reagent water.

TABLE C (Cont.)
SAS DRINKING WATER
PESTICIDE AND PCB QUANTITATION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Aldrin	309-00-2	0.005 ug/L
alpha BHC	319-84-6	0.010
beta BHC	319-85-7	0.005
delta BHC	319-86-8	0.005
gamma BHC (Lindane)	58-89-9	0.005
alpha-Chlordane	5103-71-9	0.020
gamma-Chlordane	5103-74-2	0.020
4,4'-DDD	72-54-8	0.020
4,4'-DDE	72-55-9	0.005
4,4'-DDT	50-29-3	0.020
Dieldrin	60-57-1	0.010
Endosulfan I	959-98-8	0.010
Endosulfan II	33213-65-9	0.010
Endosulfan sulfate	1031-07-8	0.10
Endrin	72-20-8	0.010
Endrin Aldehyde	7421-93-4	(0.030)
Endrin Ketone	53494-70-5	0.030
Heptachlor	76-44-8	0.030
Heptachlor Epoxide	1024-57-3	0.005
4,4'-Methoxychlor	72-43-5	0.020
Toxaphene	8001-35-2	0.25
Aroclor-1016	12674-11-2	0.10
Aroclor-1221	11104-28-2	0.10
Aroclor-1232	11141-16-5	0.10
Aroclor-1242	53469-21-9	0.10
Aroclor-1248	12672-29-6	0.10
Aroclor-1254	11097-69-1	0.10
Aroclor-1260	11096-82-5	0.10

( ) Values in parentheses are estimates.
Actual values are being determined at this time.

Note: Limits are for reagent water.

TABLE C (Cont.)
SAS DRINKING WATER
INORGANIC DETECTION LIMITS

PARAMETER	PROCEDURE	DETECTION LIMIT
Aluminum	ICP	100
Antimony	GFAA	5
Arsenic	GFAA	5
Barium	ICP	50
Beryllium	ICP	5
Cadmium	GFAA	0.5
Calcium	ICP	1000
Chromium	ICP	10
Cobalt	ICP	10
Copper	ICP	10
Iron	ICP	100
Lead	GFAA	2
Magnesium	ICP	1000
Manganese	ICP	10
Mercury	Cold Vapor	0.2
Nickel	ICP	20
Potassium	ICP	2000
Selenium	GFAA	2
Silver	ICP	5
Sodium	ICP	1000
Thallium	GFAA	2
Tin	ICP	40
Vanadium	ICP	10
Zinc	ICP	20
Cyanide	Colorimetric	10

Note: The above list may or may not contain compounds that are routinely analyzed at CRL for lov level detection limits for drinking water.

See inorganic Routine Analytical Services (RAS) for related CAS #.

APPENDIX D

U.S. EPA TARGET COMPOUND LIST AND TARGET ANALYTE LIST QUANTITATION/DETECTION LIMITS

ADDENDUM A

ROUTINE ANALYTICAL SERVICES
CONTRACT REQUIRED DETECTION AND QUANTITATION LIMITS

Contract Laboratory Program
Target Compound List
Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
Chloromethane	74-87-3	10 ug/L	10 ug/Kg
Bromomethane	74-83-9	10	10
Vinyl chloride	75-01-4	10	10
Chloroethane	75-00-3	10	10
Methylene chloride	75-09-2	5	5
Acetone	67-64-1	10	5
Carbon disulfide	75-15-0	5	5
1,1-dichloroethene	75-35-4	5	5
1,1-dichloroethane	75-34-3	5	5
1,2-dichloroethene (total)	540-59-0	5	5
Chloroform	67-66-3	5	5
1,2-dichloroethane	107-06-2	5	5
2-butanone (MEK)	78-93-3	10	10
1,1,1-trichloroethane	71-55-6	5	5
Carbon tetrachloride	56-23-5	5	5
Vinyl acetate	108-05-4	10	10
Bromodichloromethane	75-27-4	5	5
1,2-dichloropropane	78-87-5	5	5
cis-1,3-dichloropropene	10061-01-5	5	5
Trichloroethene	79-01-6	5	5
Dibromochloromethane	124-48-1	5	5
1,1,2-trichloroethane	79-00-5	5	5
Benzene	71-43-2	5	5
Trans-1,3-dichloropropene	10061-02-6	5	5
Bromoform	75-25-2	5	5
4-Methyl-2-pentanone	108-10-1	10	10
2-Hexanone	591-78-6	10	10
Tetrachloroethene	127-18-4	5	5
Tolene	108-88-3	5	5
1,1,2,2-tetrachloroethane	79-34-5	5	5
Chlorobenzene	108-90-7	5	5
Ethyl benzene	100-41-4	5	5
Styrene	100-42-5	5	5
Xylenes (total)	1330-20-7	5	5

Table A
Contract Laboratory Program
Target Compound List
Semivolatiles Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
Phenol	108-95-2	10 ug/L	330 ug/Kg
bis(2-Chloroethyl) ether	111-44-4	10	330
2-Chlorophenol	95-57-8	10	330
1,3-Dichlorobenzene	541-73-1	10	330
1,4-Dichlorobenzene	106-46-7	10	330
Benzyl Alcohol	100-51-6	10	330
1,2-Dichlorobenzene	95-50-1	10	330
2-Methylphenol	95-48-7	10	330
bis(2-Chloroisopropyl) ether	108-60-1	10	330
4-Methylphenol	106-44-5	10	330
N-Nitroso-di-n-dipropylamine	621-64-7	10	330
Hexachloroethane	67-72-1	10	330
Nitrobenzene	98-95-3	10	330
Isophorone	78-59-1	10	330
2-Nitrophenol	88-75-5	10	330
2,4-Dimethylphenol	105-67-9	10	330
Benzoic Acid	65-85-0	50	1600
bis(2-Chloroethoxy) methane	111-91-1	10	330
2,4-Dichlorophenol	120-83-2	10	330
1,2,4-Trichlorobenzene	120-82-1	10	330
Naphthalene	91-20-3	10	330
4-Chloroaniline	106-47-8	10	330
Hexachlorobutadiene	87-68-3	10	300
4-Chloro-3-methylphenol	59-50-7	10	330
2-Methylnaphthalene	91-57-6	10	330
Hexachlorocyclopentadiene	77-47-4	10	330
2,4,6-Trichlorophenol	88-06-2	10	330
2,4,5-Trichlorophenol	95-95-4	50	1600
2-Chloronaphthalene	91-58-7	10	330
2-Nitroaniline	88-74-4	50	1600
Dimethylphthalate	131-11-3	10	330
Acenaphthylene	208-96-8	10	330
2,6-Dinitrotoluene	606-20-2	10	330
3-Nitroaniline	99-09-2	50	1600
Acenaphthene	83-32-9	10	330
2,4-Dinitrophenol	51-28-5	50	1600
4-Nitrophenol	100-02-7	50	1600
Dibenzofuran	132-64-9	10	330
2,4-Dinitrotoluene	121-14-2	10	330
Diethylphthalate	84-66-2	10	330
4-Chlorophenyl-phenyl ether	7005-72-3	10	330

APPENDIX E

WELL LOGS OF THE AREA OF THE SITE

LOG OF WATER WELL

10

Property owner Nina Miller Well No.

Drilled by Truman Hinkle 15 May Year 59

Formations passed through	Thickness	Depth of Bottom
Started in well pit	5	5
Mixed Sand & clay	25	30
Sand	22	52
Blue mud & clay	30	82
Fine Quicksand	37	119
Mixed sand & gravel	13	132
gravel packed 5 ft & developed		

COUNTY NO. 563

[Continue on back if necessary]

Finished in Mixed Sand & gravel at 119 to 132 ft.

Cased with 6" inch I.D. Blk steel from 5 to 132 ft.

and inch from to ft.

Size hole below casing 6 inch. Static level from surf 45 ft.

Tested capacity 450 gal. per hr. Temperature °F.

Water lowered to No drawdown ft in. in hrs. min.

Length of test 4 hrs. min. Screen 5' gravel pack

Slot Diam. Length Bottom set at 132 ft.

[Show location in Section Plat]

Township name Rfd. Elev.

Description of location 2911 HANSON ST

Sec. 1

Twp. 43 N

Rge. 1 E

Signed County WINN

WINNEBAGO

Copy for Well Owner

Index: 1-43N-1E

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, BUREAU OF ENVIRONMENTAL HEALTH, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62701. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug ____. Bored ____. Hole Diam. 5 in. Depth 86 ft.
   Curb material ____. Buried Slab: Yes ____ No ____
   b. Driven ____. Drive Pipe Diam. 5 in. Depth 86 ft.
   c. Drilled X. Finished in Drift X. In Rock ____.
   Tubular ____. Gravel Packed ____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

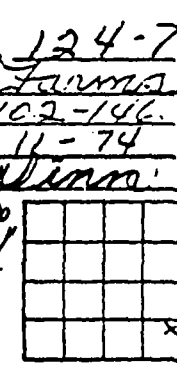
2. Distance to Nearest:
   Building 40 Ft. Seepage Tile Field —
   Cess Pool — Sewer (non Cast iron) —
   Privy — Sewer (Cast iron) 60
   Septic Tank 0 Barnyard —
   Leaching Pit — Manure Pile —
3. Is water from this well to be used for human consumption?
   Yes X No ____
4. Date well completed 10-28-74
5. Permanent Pump Installed? Yes X No ____
   Manufacturer Red Jacket Type Sub
   Capacity 10 gpm Depth of setting 72 ft.
6. Well Top Sealed? Yes X No ____
7. Pitless Adaptor Installed? Yes X No ____
8. Well Disinfected? Yes X No ____
9. Water Sample Submitted? Yes X No ____

REMARKS:

IDPH 4.065
10-72
KNB-1

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Mary Bagwell Well No. 124-74
    Address Lot 24 Kinsey Little Farms
    Driller D Livingston License No. 102-146
11. Permit No. 32957 Date Sept 11-74
12. Water from Drift Formation 13. County Winn
    at depth ____ to ____ ft.
14. Screen: Diam. ____ in.
    Length: ____ ft. Slot ____
    Sec. 2 16
    Twp. 43N
    Rge. 1E
    Elev. ____



SHOW LOCATION IN SECTION PLAT
Lot 24 Kinsey Little Farms NESESE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	Std Blk Steel	0	86

16. Size Hole below casing: — in.
17. Static level 25 ft. below casing top which is 1 ft. above ground level. Pumping level 30 ft. when pumping at 10 gpm for 2 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
top soil	2	
clay	61	63
sand	21	84
gravel	2	86

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Lowell Livingston DATE 11-9-74

WELL LOG #2

White Copy – Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug ____. Bored ____. Hole Diam. 5 in. Depth 145 ft.
   Curb material ____. Buried Slab: Yes ____ No ____
   b. Driven ____. Drive Pipe Diam. 5 in. Depth 114 ft.
   c. Drilled X. Finished in Drift ____. In Rock X.
   Tubular ____. Gravel Packed ____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:
   Building 60 Ft. Seepage Tile Field 100+
   Cess Pool = Sewer (non Cast iron) ____
   Privy ____ Sewer (Cast iron) ____
   Septic Tank 90 Barnyard ____
   Leaching Pit ____ Manure Pile ____
3. Well furnishes water for human consumption? Yes X No ____
4. Date well completed ____
5. Permanent Pump Installed? Yes ____ Date ____ No X
   Manufacturer ____ Type ____ Location ____
   Capacity ____ gpm. Depth of Setting ____ Ft.
6. Well Top Sealed? Yes X No ____ Type ____
7. Pitless Adapter Installed? Yes ____ No X
   Manufacturer ____ Model Number ____
   How attached to casing? ____
8. Well Disinfected? Yes X No ____
9. Pump and Equipment Disinfected? Yes ____ No X
10. Pressure Tank Size ____ gal. Type ____
    Location ____
11. Water Sample Submitted? Yes ____ No X

REMARKS: 1973

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Steven Balmain Well No. 26777
    Address Lot #2 Indian Village Sub-
    Driller Lowell Livingston License No. 102-146
11. Permit No. 64380 Date July 29-77
12. Water from rock Formation 13. County Winn
    at depth ____ to ____ ft.
14. Screen: Diam. ____ in.
    Length: ____ ft. Slot ____
    Sec. 3
    Twp. 43N
    Rge. 1E
    Elev. ____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	A-53	0	114

SHOW LOCATION IN SECTION PLAT
Lot 2 Indian Village
SE SW NE

16. Size Hole below casing: 5 in.
17. Static level 70 ft. below casing top which is 1 ft. above ground level. Pumping level 90 ft. when pumping at 10 gpm for 4 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Fill dirt	5	
Black dirt	2	7
sand & gravel	107	114
lime rock	31	145

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Lowell Livingston DATE 1-10-78

WELL LOG #3

IDPH 4.065
1/74 – KNB-1

INSTRUCTIONS TO DRILLERS

ite Copy – Ill. Dept. of Pu... Health
...llow Copy – Well Contractor
...e Copy – Well Owner

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, BUREAU OF ENVIRONMENTAL HEALTH, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62701. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug ____. Bored ____. Hole Diam. ____ in. Depth ____ ft.
   Curb material ____. Buried Slab: Yes ____ No ____
   b. Driven ✓. Drive Pipe Diam. 5 in. Depth 31 ft.
   c. Drilled ✓. Finished in Drift ____. In Rock ✓.
   Tubular ____. Gravel Packed ____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:
   Building 30 Ft. Seepage Tile Field 100
   Cess Pool ____ Sewer (non Cast Iron) ____
   Privy ____ Sewer (Cast iron) ____
   Septic Tank 75 Barnyard ____
   Leaching Pit ____ Manure Pile ____
3. Is water from this well to be used for human consumption?
   Yes ✓ No ____
4. Date well completed Nov-30-73
5. Permanent Pump Installed? Yes ✓ No ____
   Manufacturer Red Jacket Type Sub.
   Capacity 12 gpm. Depth of setting 140 ft.
6. Well Top Sealed? Yes ✓ No ____
7. Pitless Adaptor Installed? Yes ✓ No ____
8. Well Disinfected? Yes ✓ No ____
9. Water Sample Submitted? Yes ✓ No ____

REMARKS:

IDPH 4.065
10-72
KNB-1

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner L.G. Weshiem Well No. ____
    Address Banks St. Rockford
    Driller Melvin McKinney License No. 92-481
11. Permit No. 26611 Date Oct 15 73
12. Water from Rock (Formation) at depth 160 to 210 ft.
13. County Winnebago
    Sec. 34 46
    Twp. 44N
    Rge. 1E
    Elev. ____
14. Screen: Diam. ____ in.
    Length: ____ ft. Slot ____

SHOW LOCATION IN SECTION PLAT
NW SW SE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	Steel	0	31

16. Size Hole below casing: 5 in.
17. Static level 75 ft. below casing top which is 1 ft. above ground level. Pumping level 100 ft. when pumping at 12 gpm for 2 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil	0	2
Red Clay + Gravel	29	31
Yellow Limestone	80	111
Blue Rock	99	210

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Phil. Ekm... DATE 12-28-73

McKinney Bros. Well Drlg.

WELL LOG #4